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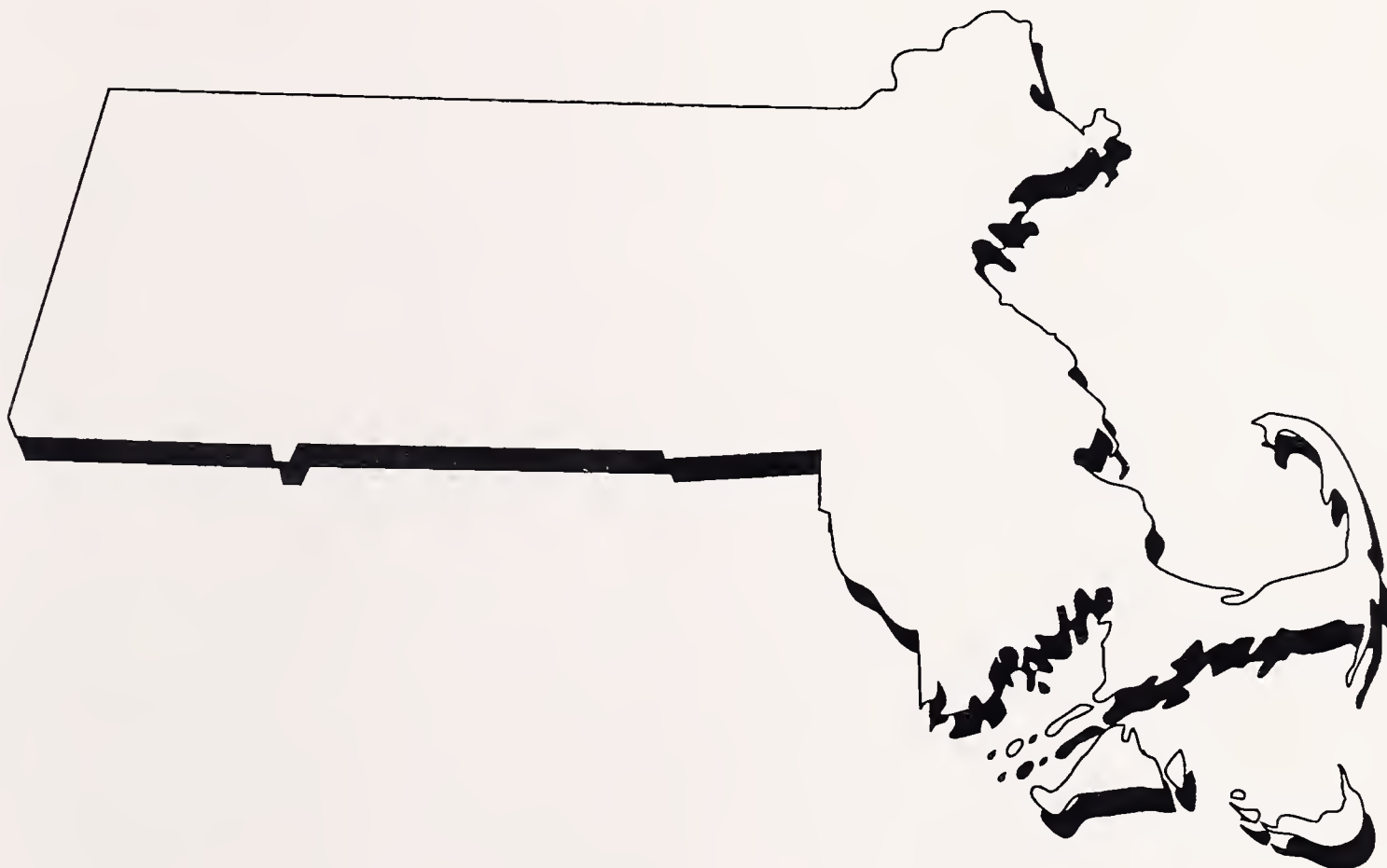
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GUIDEBOOK ON REGULATORY PROCEDURES FOR

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DEVELOPMENT OF COGENERATION AND  
INDEPENDENT POWER PRODUCTION  
IN MASSACHUSETTS

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COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF ENERGY RESOURCES

AUGUST 1989

MICHAEL S. DUKAKIS  
GOVERNOR

SHARON M. POLLARD  
SECRETARY

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Dear Friend:

August 1989

The Massachusetts Executive Office of Energy Resources (EOER) is pleased to present this Guidebook on Regulatory Procedures for Development of Cogeneration and Independent Power Production in Massachusetts.

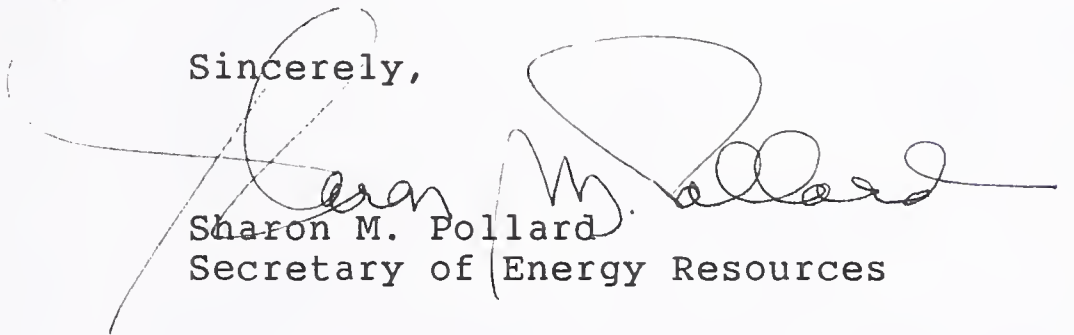
EOER oversees the energy policies and the majority of the energy programs in the Commonwealth. In this role, it provides essential technical assistance to developers of cogeneration and small and independent power projects. With this guidebook, EOER is providing a comprehensive overview of the many Federal, State and local review procedures relevant to the development of power projects.

Power project developers working in Massachusetts face a complex regulatory environment. EOER has the unique expertise to provide assistance regarding the Commonwealth's regulations as they relate specifically to cogenerators and small power producers.

Cogeneration and small and independent power production are fundamental elements of Massachusetts' energy supply policy. Entrepreneurs invest billions of dollars to develop these types of projects. Yet, regulatory delays and uncertainty are threats to the viability of these projects. The timely and accurate technical assistance provided by EOER, together with this guidebook, may make the difference between a project's success or failure.

I trust that this guidebook will be of assistance to you and I encourage you to tell all the interested persons with whom you work that this volume is available. Lastly, I would like to thank the consultants and the individuals throughout State government who assisted EOER in the preparation of this guidebook.

Sincerely,

  
Sharon M. Pollard  
Secretary of Energy Resources



## ACKNOWLEDGMENTS

This guidebook was prepared under the auspices of the Office of Policy and Planning of the Executive Office of Energy Resources (EOER), directed by David A. Tibbetts, Acting Assistant Secretary for Policy. The EOER project manager was Tracy S. Narel, Senior Policy Analyst.

A special note of thanks is due to staff members Chris Donodeo Cashman and Irving Sacks who assisted in the selection of the consultant team for the project and reviewed early drafts of the document. EOER would also like to acknowledge the contribution of former staff member, Barbara Dowd, who oversaw the initial development of the guidebook project. Finally, EOER would like to note the skill and professionalism of HMM Associates, Inc., Concord, Massachusetts, and Palmer & Dodge, Boston, Massachusetts who prepared the document.

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# GUIDEBOOK ON REGULATORY PROCEDURES FOR DEVELOPMENT OF COGENERATION AND INDEPENDENT POWER PRODUCTION IN MASSACHUSETTS

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## 1.0 INTRODUCTION

### 1.1 Purpose of Guidebook

This Guidebook presents a comprehensive yet concise overview of the permitting procedures for development of cogeneration and other non-utility electric power generation projects in Massachusetts. It has been prepared for the Executive Office of Energy Resources (EOER) of the Commonwealth of Massachusetts.

### 1.2 Target Audience

The target audience for this Guidebook includes anyone needing to comprehend the complex set of Federal, state and local regulatory procedures governing development of cogeneration and related energy projects in Massachusetts. This audience includes:

- Project developers and equipment vendors;
- Commercial, industrial and institutional hosts for cogeneration projects;
- Environmental, legal, economic, engineering and architectural consultants for energy projects; and
- Federal, state and local regulatory officials.

EOER will distribute the Guidebook in response to requests to EOER for technical assistance regarding regulatory procedures in Massachusetts, and will make the Guidebook available upon request to any interested person.

### 1.3 Preparation of Guidebook

This Guidebook has been prepared by HMM Associates, Inc. (HMM) in association with Palmer & Dodge working under contract to EOER. HMM is an environmental consulting, engineering and planning firm located in Concord, Massachusetts. Palmer & Dodge is a law firm located in Boston, Massachusetts. HMM and Palmer & Dodge have provided technical and legal assistance for a number of energy projects in Massachusetts and elsewhere. This Guidebook reflects comments and input received from the Massachusetts Department of Public Utilities (DPU), the Energy Facilities Siting Council (EFSC), the Department of Environmental Protection (DEP), the Massachusetts Environmental Policy Act (MEPA) Unit of the Executive Office of Environmental Affairs (EOEA), and EOER.

## 1.4 Overview of Document and Contents

Section 2.0 of this Guidebook provides an overview of the growing market for non-utility power generation in Massachusetts, and identifies the different types of non-utility power production. Section 3.0 provides an overview of the power sales approval and environmental permitting procedures in Massachusetts, and identifies the most important regulatory steps that generally will determine the speed and success of a proposed development.

Sections 4.0 and 5.0 provide more detailed descriptions of the regulatory approvals required for power sales, siting and environmental permitting. Each section includes decision trees and flow charts to guide a project proponent. Section 6.0 provides three hypothetical case studies and recommendations for permitting strategies.

This Guidebook also includes several appendices: A glossary of terms, acronyms and abbreviations; a list of relevant agencies, addresses, telephone numbers and key contacts; a list of reference materials; a permit checklist; and a list of the laws and regulations governing the permitting process.

## 1.5 Disclaimers

The information provided in this Guidebook is general and, by its nature, is subject to change. It is intended as a comprehensive introduction and should not be used as a substitute for a thorough analysis of the facts and the law as it applies to any specific proposal. The Commonwealth of Massachusetts, the Executive Office of Energy Resources, HMM Associates, Inc., and Palmer & Dodge make no warranties, express or implied, and assume no legal liability or responsibility for the accuracy, completeness or usefulness of any information provided within this Guidebook. The views and opinions expressed herein do not necessarily state or reflect those of the Commonwealth of Massachusetts or any agency thereof.



2.0 Summary of  
Independent Power

3.0 Overview of Regulatory  
Procedures

4.0 Licensing & Contracting  
for Power Sales

Permitting



## 2.0 SUMMARY OF COGENERATION AND INDEPENDENT POWER PRODUCTION

### 2.1 Energy Needs and Policies Favoring Non-Utility Power Production

A growing, receptive market exists for development of non-utility power production in Massachusetts. Non-utility power production encompasses cogeneration, small power and independent power projects.

#### 2.1.1 Factors Supporting Demand for Non-Utility Power Production

Forecasts by EOER and others of future electrical energy requirements consistently project increased needs for power in Massachusetts, even with aggressive conservation programs to limit demand. Siting and cost considerations have hampered utilities' capacity to develop major new fossil fuel or nuclear generating stations. At the same time, cogeneration, small power and independent power projects can supplement existing electrical generating supplies. These facilities can be put on line relatively quickly to provide competitively priced electrical power. The inherent energy efficiency of cogeneration is reflected in the favorable economics of such projects. Additionally, increasing the diversity of power generation sources reduces overdependence on any single fuel or supply source.

#### 2.1.2 Principal Policy Developments

The factors described above support and coincide with a movement toward non-utility power production. In 1978, Congress enacted the Public Utility Regulatory Policies Act (PURPA), which required that utilities and state regulators allow power sales to utilities by non-utilities meeting PURPA's requirements (Qualifying Facilities, or QFs). In 1986, the Massachusetts DPU took the next step, by requiring investor-owned electric utilities to solicit bids from QFs to supply power under pre-approved standard contracts. The DPU is currently considering and expects to adopt a proposal to open this bidding process even further, to non-utility independent power producers (IPPs) which are not QFs. The Federal Energy Regulatory Commission (FERC) is also adopting new policies that will encourage power production by IPPs.

### 2.1.3 Results and Trends in Massachusetts

The activity resulting from these policy developments in Massachusetts has been impressive. Over 350 megawatts (MW) of non-utility generating capacity has been added in Massachusetts since 1981. This total includes several large waste-to-energy projects, small hydroelectric power projects and cogeneration units at industrial sites. In 1987 and 1988, developers proposed over 150 projects totaling almost 5,500 MW in response to utilities' requests for 550 MW of new capacity. While many of these were not included within a utility's award group, and some projects within the award groups will not go forward due to siting, environmental permitting or financial viability considerations, the trend and opportunities are clear. EOER projects an increase of at least 1,200 MW of capacity from non-utility power sources in Massachusetts through the year 2000.

## 2.2 Cogeneration

Cogeneration is the coincident generation of both electric power and useful thermal energy (heat) from a single energy source. An advantage in increased energy efficiency is achieved through cogeneration by locating an electric generating station at a site where the waste heat can be used to provide steam for industrial processes or space heating. Conversely, boilers necessary to generate steam for industrial purposes or space heating can be used to produce power for on-site use or for sale to the utilities' power grid, with a significant overall savings in energy use and cost.

### 2.2.1 Potential Applications

There are many potential applications for cogeneration. Successful projects have included:

- Use of waste heat from kilns at a cement manufacturer to generate electricity;
- Generation of power for on-site use by a paper manufacturer, with the waste heat used to dry paper;
- Generation of power, with waste heat used for heating adjacent greenhouse operations;

- Generation of power, with the flue gas used to provide heat and raw materials to produce carbon dioxide for resale; and
- Use of a university's boilers to produce steam and power for on-site use, with excess power for sale to the local utility.

### 2.2.2 Categories of Cogeneration

There are two general categories of cogeneration. "Topping cycles" burn fuel to generate electric power, and the waste heat is then used for heating or other commercial or industrial purposes. "Bottoming cycles" use fuel to create thermal energy for heating or other commercial or industrial purposes, and use waste heat to generate electricity.

### 2.2.3 Fuel Supply

For either type of cogeneration, a wide variety of fuels are available. These include natural gas, distillate or residual oil, coal, municipal refuse, wood, waste wood, methane from landfills, digester gas from wastewater treatment facilities, and synthetic gases.

The choice of fuel supply is critical to most power production proposals. Predicting future fuel costs and guaranteeing fuel supply is central to the economics of most projects. The choice of fuel will also dictate many siting and environmental considerations. This Guidebook addresses many regulatory implications of particular fuel supply choices. Strategies for choosing and arranging fuel supplies are, however, beyond its scope.

## 2.3 Small Power Production

Generally, the term small power production refers to facilities that: (a) are not cogeneration facilities; (b) fall below a size threshold set by FERC (80 MW); and (c) obtain their power primarily from use of alternative energy sources, such as waste, biomass, geothermal resources, or other renewable resources. Examples of small power production in Massachusetts include several waste to energy facilities and hydroelectric projects, and several proposed landfill gas power generation facilities. Section 4.2 of the Guidebook includes a description of the requirements for a facility to qualify under PURPA and Massachusetts rules as a small power production QF.



## 2.4 Independent Power Production

The term independent power production refers to non-utility power production by facilities that do not qualify under PURPA as cogeneration or small power production QFs. Generally, IPPs do not qualify as QFs because they do not cogenerate and because they use conventional rather than alternate fuels. IPPs typically are larger than QFs in power output because they are not constrained by the operating standards applicable to QFs. Sections 3.1.2, 4.4, and 4.5.6 of the Guidebook describe the power sales approval procedures for IPPs, which differ significantly from those for cogeneration and small power production QFs. The siting and environmental permitting procedures described in Section 5.0 of the Guidebook, however, generally are the same as for QFs.





### 3.0 OVERVIEW OF REGULATORY PROCEDURES

Developing a cogeneration or other non-utility power generating facility in Massachusetts requires navigation through two generally distinct regulatory processes. Section 3.1 provides an overview of the first process: the Federal and state rules governing authorization to sell the power generated by a facility. A more specific discussion of each step of obtaining such authorization is provided in Section 4.0. The second process is the siting and environmental permitting of a particular facility. An overview of this process is addressed in Section 3.2 and the specifics are described in Section 5.0. Figure 3-1 provides a flowchart for these approvals.

#### 3.1 Licensing and Contracting for Power Sales

Generally, the sale of electricity at the wholesale level is regulated by FERC under Federal law. Retail sales are regulated by state public utility commissions such as the Massachusetts DPU. The enactment of PURPA, however, substantially altered that general structure for cogeneration facilities and small power producers that are QFs.

##### 3.1.1 Qualifying Facilities (QFs)

PURPA provides that a cogeneration facility or small power production facility that meets PURPA's standards becomes a QF, and does not require FERC approval of its wholesale sales of electricity to a utility. PURPA authorized, however, and Massachusetts has implemented, state regulations requiring such sales to be approved by the Massachusetts DPU. For cogeneration facilities and small power producers, the key regulatory steps to obtain authority to sell power in Massachusetts are obtaining status as a QF under PURPA and FERC's rules, and obtaining Massachusetts DPU approval of a power sales contract. Additional aspects of PURPA and QF power sales are described in Section 4.0.

##### 3.1.2 Independent Power Producers (IPPs)

IPPs, because they are not QFs, must obtain FERC's approval of their wholesale power sales to a utility. A utility's purchase of power from an IPP also is subject to the Massachusetts DPU's approval, which is routinely granted if FERC has approved the agreement. For the developer of an IPP, FERC's approval is the key.

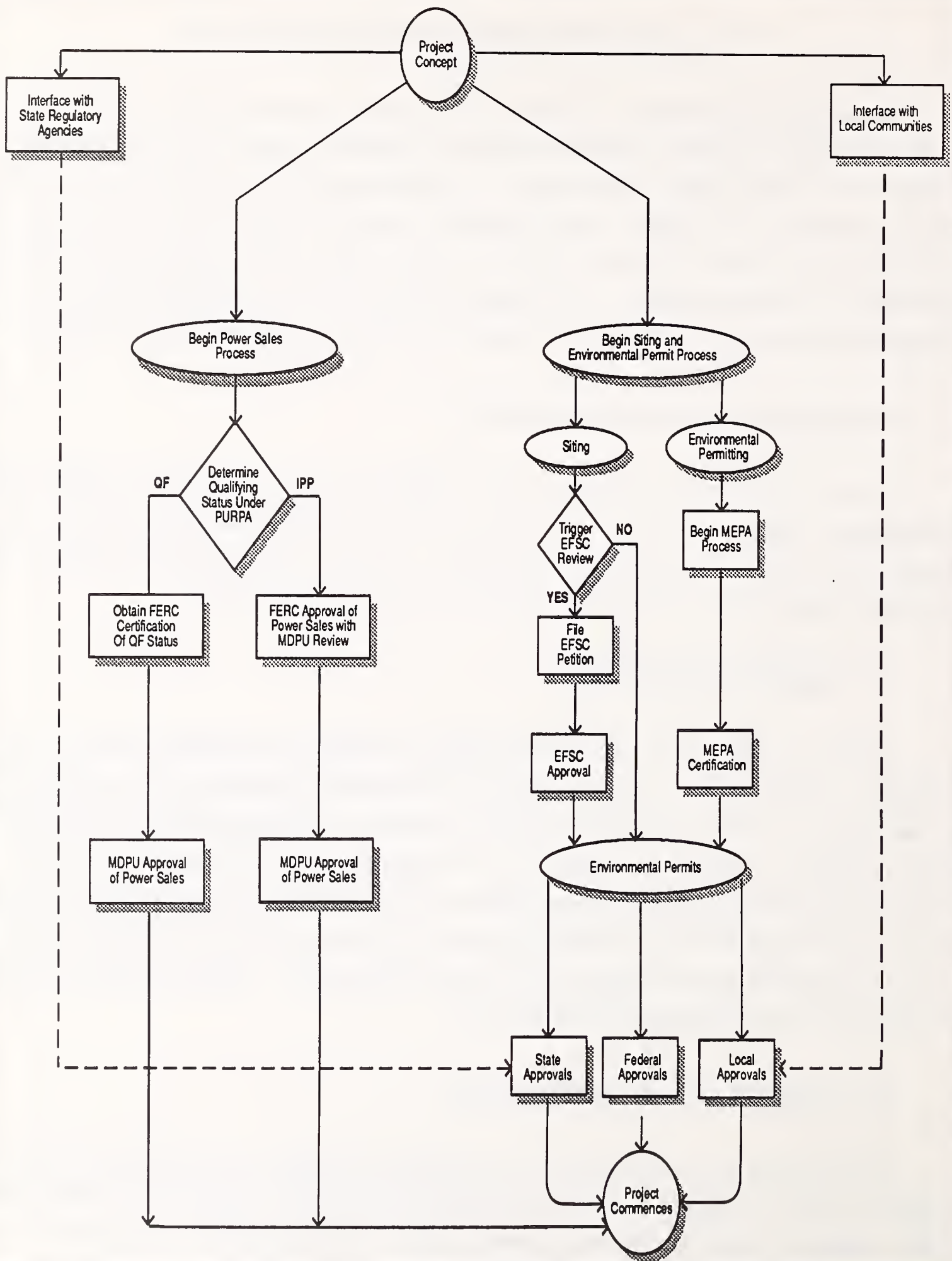


FIGURE 3-1:  
OVERALL APPROVAL FLOW CHART



### 3.1.3 Retail Sales

In Massachusetts, retail sales of electricity are permitted only by "electric companies" as defined under Massachusetts General Laws (M.G.L.) c.164, § 1, which entails DPU regulation of such companies. Proposals are pending in the Massachusetts legislature to authorize limited retail sales by cogeneration and small power producers without requiring full regulation as an electric company.

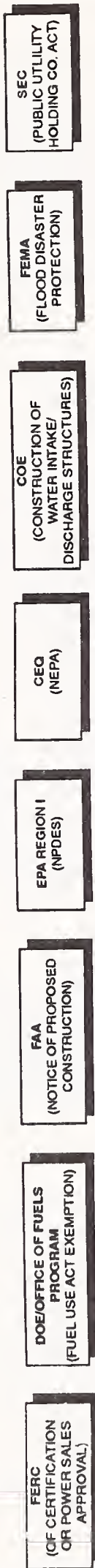
## 3.2 Siting and Environmental Permits

The procedures for obtaining environmental permits and siting approvals for power projects in Massachusetts are complex, rigorous and time-consuming. Utilities negotiating power sales agreements with prospective developers are increasingly requiring that developers demonstrate early in the negotiations that a proposed project has a realistic opportunity to satisfy these requirements. The developer of a proposed project must develop a realistic permitting strategy.

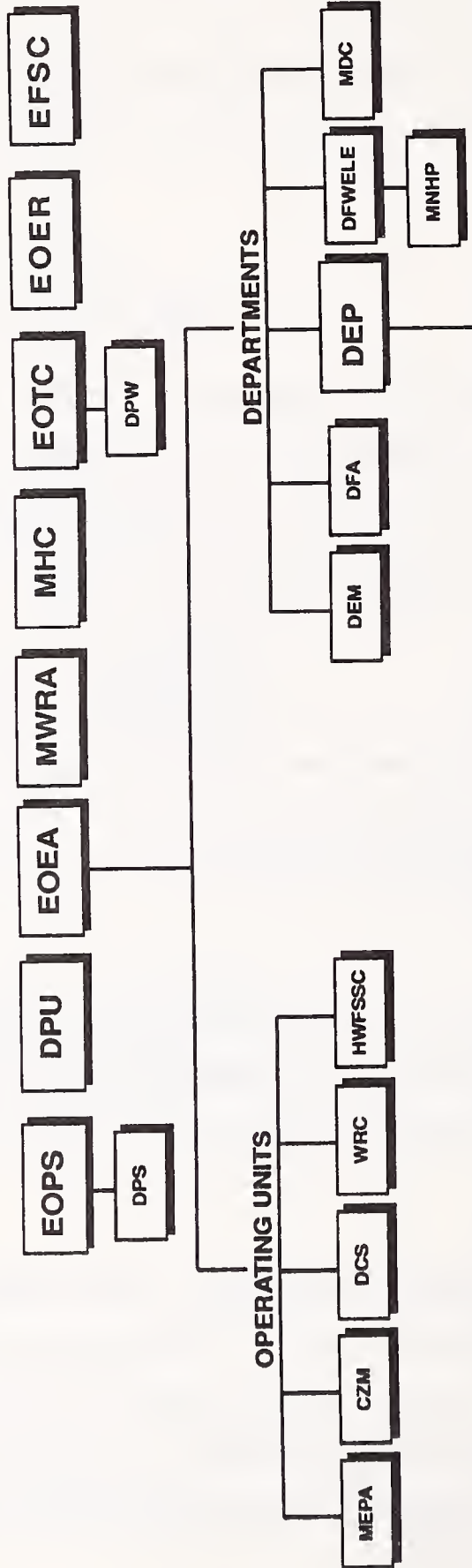
Most projects will require as many as 15 or more environmental permits or siting approvals from state and local agencies, and sometimes Federal regulatory agencies. Figure 3-2 is a chart of the Federal, state, and local agencies generally involved in the permitting process. Appendix D provides a checklist of potentially applicable permits. Of all these procedures, three are generally the most critical.

- Energy Facilities Siting Council (EFSC) - If a project is 100 MW or larger, or involves construction of significant gas or power transmission lines, the project will require a siting approval from the EFSC. The process for obtaining EFSC approval is described in Section 5.2.1.
- Massachusetts Environmental Policy Act (MEPA) - Under MEPA, administered by the MEPA Unit of the Executive Office of Environmental Affairs, a project requiring any state permit or approval generally must first disclose and thoroughly analyze the environmental impacts of the proposal. A certificate of compliance with MEPA is required before any state agency may issue an environmental permit. This process is described in Section 5.2.2.

## FEDERAL



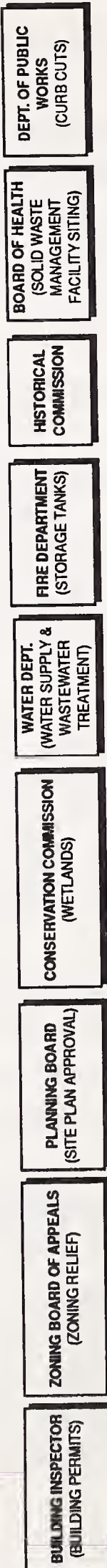
## MASSACHUSETTS



## BUREAUS



## LOCAL



See Appendix A for Agency Abbreviations

FIGURE 3-2:  
FEDERAL, STATE AND LOCAL PERMITTING AGENCIES

- Air Permitting - For most QFs or IPPs, the most important permit on a critical path schedule is approval of air plans from the DEP. DEP often requires pre-permitting modeling and base-line monitoring, which should be coordinated with the analyses of environmental impacts under MEPA. This process is described in Section 5.2.3.1.

A full description of the environmental permitting agencies and relevant permits is included in Section 5.0.

### 3.2.1 Expediting the Environmental Permitting Process

Successful projects are typically those that fully anticipate all potential requirements for approval and develop a careful permitting strategy and schedule.

#### 3.2.1.1 Regulatory Interaction

It is important to note that the permitting process in Massachusetts may be expedited by meeting with regulatory agencies and local communities at the earliest stages of a project, and continuing this interface throughout the process. Meeting with regulators early in the project's development may streamline a project through the regulatory process by flagging important issues and avoiding potential pitfalls. A project need not be far along for developers to conduct preliminary meetings with agency officials. Regulators usually are available to meet with developers and can offer advice and materials from previous filings to assist the developer in conceiving the most environmentally sound project.

#### 3.2.1.2 Local Interaction

Developers are strongly urged to communicate with members of the community or communities that may be affected by a particular project. This includes not only elected officials (e.g., mayor, city selectmen, planning board members), but abutters and others who may be affected by the project. Early communication with local groups may prevent costly delays as a result of unexpected opposition, may dispel uninformed concerns, and may enable a developer to reassess project requirements before major financial commitments have been made.



### 3.2.1.3 Interagency Workgroups

While the permitting process is often complex and may result in some overlap of agency review, many regulators are participating in interagency workgroups to streamline the process and eliminate inconsistencies. Proponents should be aware that this interagency coordination is ongoing, yet may take several months or possibly years to complete. Currently the EFSC and the DPU have an interagency agreement requiring coincident filing with both agencies for projects that are jurisdictional for both. Similar agreements may soon result between the EFSC, DEP and MEPA.







## 4.0 LICENSING AND CONTRACTING FOR POWER SALES

### 4.1 Overview of Federal Regulation of QFs and IPPs

Non-utility power projects are governed by three Federal statutory regimes: the Federal Power Act (FPA); the Public Utility Holding Company Act of 1935 (PUHCA or the '35 Act); and the cornerstone of non-utility power generation, the Public Utility Regulatory Policies Act of 1978 (PURPA). Most projects that are certified as QFs under PURPA are exempt from the '35 Act and most aspects of the FPA, but both Acts apply to projects that are not QFs. Those Acts are therefore important in understanding FERC's movement to deregulate power production beyond PURPA.

#### 4.1.1 Federal Energy Regulatory Commission (FERC)

Both the FPA and PURPA are administered by FERC. FERC is an independent commission within the Department of Energy (DOE). Its governing body is a five member commission, the members of which are appointed by the President with the advice and consent of the United States Senate. FERC has a large professional staff, a significant portion of which is concerned with electric power regulation.

#### 4.1.2 Federal Power Act (FPA)

The FPA, 16 United States Code (U.S.C.) § 791 *et seq.*, grants FERC jurisdiction over wholesale sales of electricity. The regulation of retail sales is generally left to state public utilities commissions. The heart of FERC's jurisdiction is its power to regulate the price of wholesale sales. Section 205 of the FPA requires that the price, terms and conditions of wholesale sales be "just and reasonable." FERC has traditionally implemented this in the form of "rate of return" price regulation like that imposed on franchise utilities by departments of public utilities. The seller is allowed to recover its costs plus a regulated rate of return on equity invested.

The FPA also grants FERC jurisdiction over certain corporate functions of entities engaged in wholesale sales of electricity: issuance of securities, dispositions of property and accounting practices.

PURPA, 16 U.S.C. § 824 *et seq.*, exempts most types of energy projects certified as QFs from price and corporate regulation by FERC under the FPA (see Section 4.1.2.). In the recent past FERC also began to allow deregulated treatment for IPPs that do not qualify for the benefits of PURPA (see Section 4.1.4).

#### 4.1.3 Public Utility Holding Company Act (PUHCA)

PUHCA, 15 U.S.C. § 79 *et seq.*, was enacted in 1935 to allow for the regulation and dismantling of the large utility systems that grew in the early days of electric power generation. It significantly restricts owners of electric utilities and power generating facilities from operating in more than one state. As discussed later in this section, most types of QFs are not considered to be electric utilities for the purposes of PUHCA, and are exempted from its effects by PURPA. IPPs, however, are not exempt from PUHCA.

PUHCA is administered by the Securities and Exchange Commission (SEC). The SEC is composed of five commissioners appointed by the President with the advice and consent of the U.S. Senate, and has a large professional staff. The primary mission of the SEC is the regulation of securities and the administration of PUHCA consumes a minor portion of the SEC's time and staff.

#### 4.1.4 Public Utility Regulatory Policies Act (PURPA)

FERC implements PURPA through its regulations contained in 18 Code of Federal Regulations (C.F.R.) Part 292. It establishes the two classes of QFs, cogeneration QFs and small power production QFs. It makes many benefits available to these QFs. The most important are:

- Interconnection - A utility must provide interconnection to all QFs within its service territory.
- Purchases - The utility must also purchase on an as-available basis any energy and capacity made available to the utility by the QF at a price equal to the utility's current avoided cost. Avoided cost is the amount the utility saves by not generating the electricity itself or buying from another source. The QF may also enter into a long-term power sales contract with the utility and the PURPA regulations allow the facility and the utility to contract at a price lower than avoided cost. Most facilities choose to enter into long-term power contracts at a predetermined fixed or escalating price less than projected avoided cost rather than bear the risk of fluctuations in actual avoided cost.

- Sales - A utility must sell electricity, including supplementary, back-up and maintenance power, to a QF within the utility's service territory.

#### 4.1.5 Exemption from Certain Federal and State Regulation

QFs are exempted by PURPA from several regulatory regimes:

- FPA - QFs are exempted from rate and corporate regulation under the FPA. This means that QFs do not need FERC approval of their power contracts. This exemption from the FPA does not, however, apply to small power producer QFs larger than 30 MW unless they are geothermal.
- PUHCA - QFs are exempted from the definition of an "electric utility company" within the meaning of PUHCA. The practical result is that there are no PUHCA limitations on the ownership of most QFs. The exemption does not apply to small power producer QFs larger than 30 MW unless they are geothermal or biomass.
- State Utility Regulation - QFs that do not make retail sales are exempted from state regulation of utility rates and financial and organizational matters. This does not exempt a QF from state regulations implementing PURPA or other state regulation such as environmental or safety laws. QFs that make retail sales are subject to state utility regulation unless the State provides an exemption for QFs. As described in Section 3.1.1 of this Guidebook, Massachusetts makes no such exemption.

## 4.2 Substantive Standards and Certifications for QFs

There are two aspects to obtaining QF status and its benefits: the substantive standards for QFs, and the procedural steps to obtain certification of QF status. Steps for the determination of QF status are outlined in Figure 4-1.

### 4.2.1 Substantive Standards for QFs

The standards for the two types of QFs, cogeneration facilities and small power production facilities, are slightly different. These standards are described below. Both types of QFs, however, must meet the ownership criteria imposed by FERC.



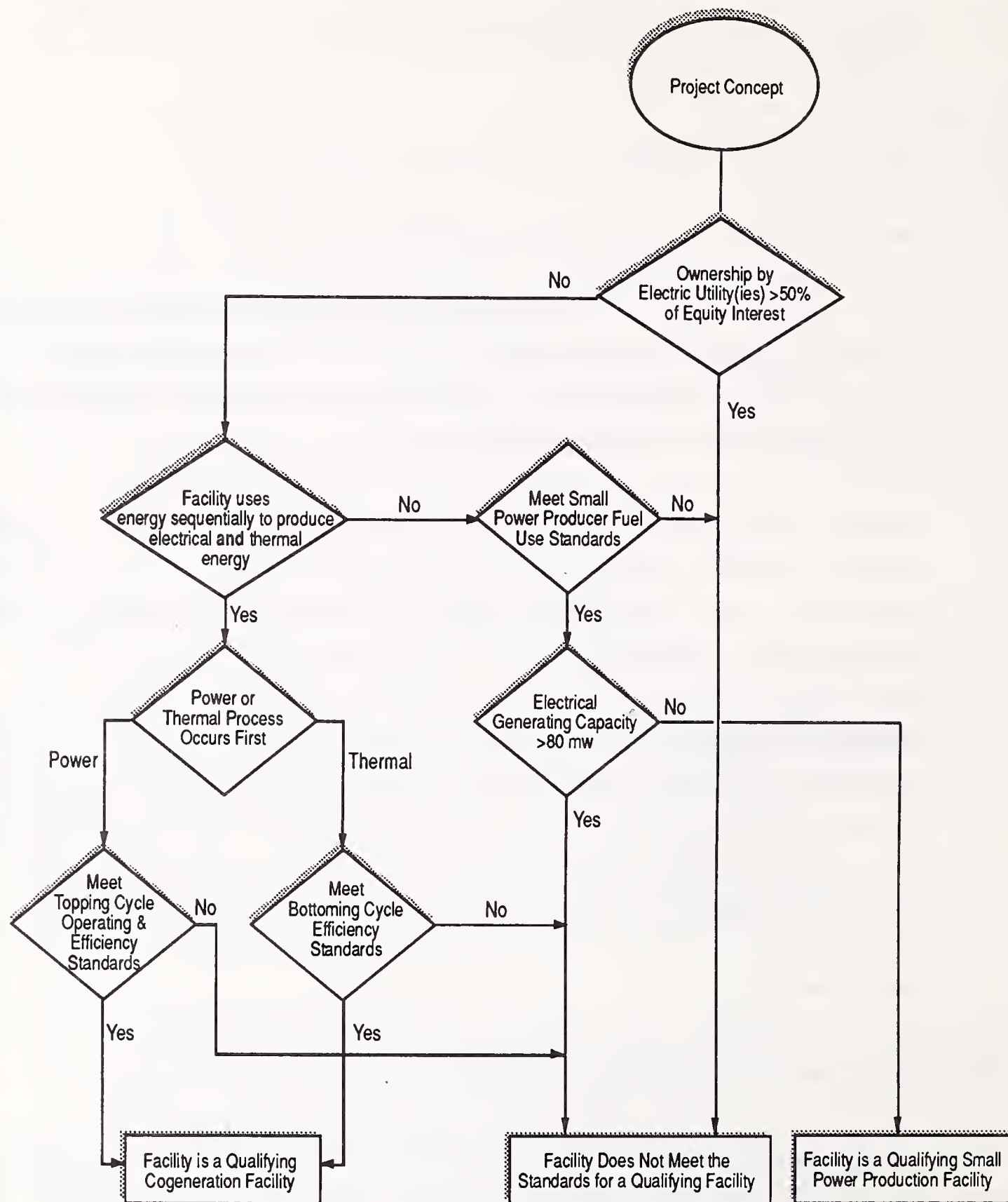


FIGURE 4-1:  
DETERMINATION OF A QUALIFYING FACILITY

#### 4.2.1.1 Ownership Criteria

No more than 50% of the equity interest in the facility may be held by electric utilities, electric utility holding companies, subsidiaries of any of them, or any combination of the three. These types of entities may, however, hold more than 50% of the debt interest in the facility. FERC has also granted certification to facilities owned by partnerships to which utility affiliates have provided far more than 50% of the total capitalization in return for partnership interests that resemble preferred stock.

#### 4.2.1.2 Standards for Cogeneration Facilities

Efficiency Standards - Bottoming cycle cogeneration facilities that use natural gas or oil for supplementary firing and all topping cycle cogeneration facilities that use natural gas or oil as a fuel must meet efficiency standards.

- Bottoming Cycle Facilities - During each calendar year the useful power output of a bottoming cycle facility must be no less than 45% of the energy input of natural gas and oil for supplementary firing.
- Topping Cycle Facilities - During each calendar year the sum of the useful power output and one-half the useful thermal output of a topping cycle facility must be no less than 42.5% of the total energy input of natural gas and oil to the facility. However, if the useful thermal energy output of the facility is less than 15% of the total energy output of the facility, the standard is 45% of the total energy input of natural gas and oil to the facility rather than 42.5%.

Operating Standard for Topping Cycle Facilities - Topping cycle facilities must also meet an operating standard: at least 5% of the total energy output of the facility in any calendar year must be "useful" thermal output. If the thermal use is not a common commercial or industrial use, or the buyer of the thermal output is an affiliate of the QF, FERC may scrutinize the sales arrangements closely to determine whether the QF's thermal output is truly commercially useful. For example, FERC generally examines sales of thermal output to greenhouses more closely than sales for space heating, crop drying or chemical processing. Increased scrutiny by FERC usually entails a longer certification process.



#### 4.2.1.3 Standards for Small Power Production Facilities

Small power production facilities must meet two standards: fuel use and size.

Fuel Use - The primary energy source of a small power production facility must be biomass, waste, geothermal or a renewable resource such as solar energy, wind or hydroelectric energy. A small power production facility may use oil, gas or coal as supplementary fuel, but their use may not exceed 25% of the total energy input of the facility in any calendar year.

Size - The electrical generation capacity of a small power production QF may not exceed 80 MW. However, as discussed earlier, most types of small power production facilities remain subject to FPA and PUHCA if they are larger than 30 MW.

#### 4.2.2 Procedures to Obtain Certification

There are two procedures for obtaining QF status: self-certification and FERC certification.

##### 4.2.2.1 Self-Certification

The owner or operator of a facility that meets the substantive standards for QF status may self-certify simply by furnishing a notice to FERC. The notice must contain the following information:

- The name and address of the applicant and the location of the facility;
- A brief description of the facility, including a statement indicating whether the facility is a small power or cogeneration facility;
- The primary energy source of the facility; and
- The power production capacity of the facility.

##### 4.2.2.2 FERC Certification

Rather than self-certify, the owner or operator of a facility may apply to FERC for certification. The application must contain the same information as the self-certification notice and further information specified by the PURPA regulations that will allow FERC to evaluate whether the facility satisfies the substantive standards for QFs.

If the facility clearly meets the substantive standards for QF status, as interpreted by previous FERC decisions, the FERC staff will often issue facility certification under authority delegated to it by the Commission. The FERC staff will generally issue certification within 45 to 60 days of application. However, if issuing certification requires an interpretation of PURPA or the regulations under PURPA, the Commission itself will consider the application. A Commission decision will generally be issued at least three to four months from the date of application.

Self-certification has the advantages of ease and speed. However, it does not provide the developer with the same certainty as a FERC order or certification by FERC's staff. This is of most concern when a facility does not obviously meet the standards for QF status, either under the PURPA regulations or previous decisions of FERC. As a practical matter, the decision as to whether to self-certify or obtain FERC certification is often made by the sources of financing for a QF, which may impose a requirement to apply to FERC for certification.

#### 4.3 Notice to Utility

A utility is not required to purchase electricity from a QF with a design capacity of 500 kW or more until 90 days after (1) the facility notifies the utility that it is a QF or (2) the facility has applied to FERC for QF certification. This requirement need not be satisfied if the utility chooses to enter into a power sales contract with the QF voluntarily.

#### 4.4 Independent Power Producers (IPPs)

In the recent past FERC has moved toward deregulating wholesale sales by IPPs, which do not qualify as QFs because they do not satisfy the size or fuel requirements of small power producer QFs and do not cogenerate. Because they do not qualify for QF status under PURPA, PURPA is inapplicable and IPPs are governed by the FPA and PUHCA.

##### 4.4.1 IPP Regulations Under the Federal Power Act

Any contract an IPP enters into for the sale of electricity at wholesale must receive FERC's approval under Section 205 of the FPA. FERC has traditionally approved power contracts only if the price charged allows the seller to recover only its cost of producing the electricity sold, including a regulated return on equity invested. However, in a series of decisions and a proposed regulation, FERC has moved toward allowing power contracts with a long-term price negotiated by the parties to the contract at arms length when neither party has market power over the other.



The most significant decision is Ocean State Power, 44 FERC ¶ 61, 261 (1988), in which FERC allowed a developer to make wholesale sales of power from an IPP at a price that produced a rate of return on equity equal to 115% of the rate of return normally allowed by FERC. A proposed regulation was released March 16, 1988, but as of August, 1989, it had not been adopted by FERC. Notice of release of the proposed regulation appeared at 53 Federal Register 9327.

#### 4.4.2 IPP Regulations Under the Public Utility Holding Company Act

PUHCA imposes significant limits on the ability of an IPP developer to expand geographically. For the purposes of PUHCA, an IPP is considered to be a public utility. In order to own one or more IPPs a developer must (1) become a registered holding company, which places significant restrictions on the developer's operations and expansion, (2) restrict its ownership of IPPs to those incorporated and located in the same state as the ultimate parent company of the IPPs and any other public utilities affiliated with the developer, or (3) hold no more than 10% of the voting interest in any IPP or other public utility.

The SEC must also approve certain acquisitions by owners or operators of IPPs and other public utilities. If the owner or operator of an IPP, or its parent, owns a 10% or greater voting interest in another IPP or other public utility, the entity which holds that interest must obtain the approval of the SEC before acquiring a 10% or greater voting interest in any further entities which are public utilities.

#### 4.5 Approval of Power Sales by Massachusetts Department of Public Utilities (DPU)

##### 4.5.1 Overview of Power Sales in Massachusetts

The Commonwealth of Massachusetts has implemented PURPA through regulations promulgated in 1986 by the Massachusetts DPU at 220 Code of Massachusetts Regulations (C.M.R.) Part 8, in response to an EOER petition filed in December, 1984. This regulation governs power sales by QFs to the eight investor-owned electric companies operating in Massachusetts. The regulation controls the price that a utility must pay to QFs, the price that a utility may charge for back-up power supply to a QF, interconnection fees and arrangements, and wheeling arrangements. In addition, it mandates that utilities provide necessary cost and pricing information to QFs, and that the utilities solicit a portion of their power needs from QFs according to DPU-approved, standard contracts and bidding procedures. The DPU also has jurisdiction over sales of power to Massachusetts electric companies by IPPs.

Section 4.5.2 describes the information that the covered utilities must make available to enable QFs to plan and to submit contract proposals. Section 4.5.3 describes the five methods of contracting for power sales by QFs to utilities that the regulation authorizes. Section 4.5.4 provides greater detail on the most important types of those contracts, long-run contracts arranged through bidding or negotiation. Section 4.5.5 gives an overview of the back-up power, interconnection, and wheeling issues under the current regulations. Section 4.5.6 describes the DPU's role in approving IPP sales to Massachusetts electric companies.

#### 4.5.1.1 Pending Proposals

At present, only QFs may require a utility to purchase power under the requirements of PURPA and 220 C.M.R. Part 8. Since 1986, however, the DPU has conducted a generic rulemaking investigation into the appropriate ratemaking treatment for generating capacity -- both utility-owned and IPP -- that does not come from QFs. (DPU 86-36.) The DPU's goal is to establish a least-cost integrated resource management process to ensure that power is generated and distributed to ratepayers with maximum efficiency and least social cost.

One means announced by the DPU to achieve the least societal cost goal is to open the power generating business to non-utilities as broadly as possible. Accordingly, in DPU 86-36-E (October 28, 1988), the DPU promulgated 220 C.M.R. Part 9 which requires that utilities obtain the DPU's approval before making major investments in new or upgraded generating capacity. In DPU 86-36-F (November 30, 1988), the DPU proposed an all-resources solicitation process. Electric utilities would be required to issue DPU-approved requests soliciting proposals for supply of future power needs, as well as for conservation and load management programs. IPPs, other electric utilities, as well as QFs, all could submit proposals for competitive evaluation according to pre-approved criteria. The DPU expects to release a draft of specific regulations in 1989.

These developments suggest that the market for non-utility generating capacity in Massachusetts may shift markedly in the foreseeable future. At present, the QF market is still governed by 220 C.M.R. Part 8.

#### 4.5.2 Information Required of Utilities

Under 220 C.M.R. Part 8, each of the eight investor-owned utilities is required to file with the DPU, and maintain on file for public inspection at its place of business, the current rates, prices, and charges established pursuant to the regulation, as well as substantial additional information of use to persons planning QFs. This information includes:



- the utility's DPU-approved standard contracts, both short-term and long-term, for power purchases from QFs;
- the utility's written procedures for estimating interconnection costs;
- the utility's approved tariff of interconnection, metering and billing charges;
- the utility's current rules, practices and FERC-approved tariffs for wheeling services, including copies of all wheeling agreements in force; and
- power purchase rate and cost data, including:
  - (i) short-run rates for purchase of energy or capacity from QFs by rating period and voltage levels;
  - (ii) short-run avoided costs data;
  - (iii) description of the computer models or other calculations used to project avoided costs;
  - (iv) information describing the utility's existing purchases of power from QFs, including copies of any contracts; and
  - (v) rate schedules for back-up power.

In addition, a utility is required to provide information concerning its long-run avoided cost with each request for proposals (RFP) it issues. The availability of this information is intended to assure a "level playing field" for all persons seeking to develop QFs. Appendix B lists the eight Massachusetts utilities that have contracted purchase power agreements to date, and contact persons for obtaining information related to such agreements.

Massachusetts Electric Company (MECo) is exempted from the bidding process (i.e., exempted from issuing RFPs) to allow it to experiment with negotiated contracting (see Section 4.5.4.1). MECo files the information described above in the same manner, except long-run avoided costs, which it files on a contract-by-contract basis.



### 4.5.3 Methods of Contracting with Utilities

The DPU's regulation at 220 C.M.R. Part 8 identifies five methods for a QF to sell energy or capacity to the eight covered utilities. Figure 4-2 provides an overview of these five methods and their ensuing review processes.

#### 4.5.3.1 Sales Without Contract at As-Available, Short-Run Rate

Quarterly, each covered utility must file its short-run rate for purchase of energy from QFs, as available. The rate must be calculated in accordance with standards set out in the regulation that are designed to estimate the utility's short-run fuel, operation and maintenance costs avoided because of the availability of a QF's energy supply. The rate does not include any component for the utility's avoided capacity costs, since the QF is not bound to supply and the utility cannot depend upon the availability of the QF's capacity under this method. Therefore this rate is lower than the long-run rates available under other methods described below. A QF is entitled, however, to sell its excess energy to its local utility at the short-term, as-available rate without entering into any contract. This method is useful for QFs whose primary role is to supply on-site but variable power needs.

Different short-run, as-available rates may apply to QFs of different sizes. QFs below 30 kW may operate under a net billing arrangement at a non-time differentiated rate. For QFs over 30 kW, power sales will be metered and purchased on a time-of-supply basis, with separate rates for the peak and off-peak periods.

#### 4.5.3.2 Short-Run Standard Contracts

The eight utilities are required to offer a DPU-approved standard contract for purchases of energy at the short-run, as-available energy purchase rate filed by the utility as described above. This standard contract also must offer to purchase a QF's short-run capacity at a rate calculated and filed in accordance with the regulation. A short-run standard contract that has received the DPU's prior approval, once executed by a utility and a QF, is effective upon its filing with the DPU without further DPU review. A short-run standard contract is generally employed when a QF supplies the variable on-site power needs of the facility owner, but makes occasional sales to a utility, and a power sales agreement is required to obtain financing.

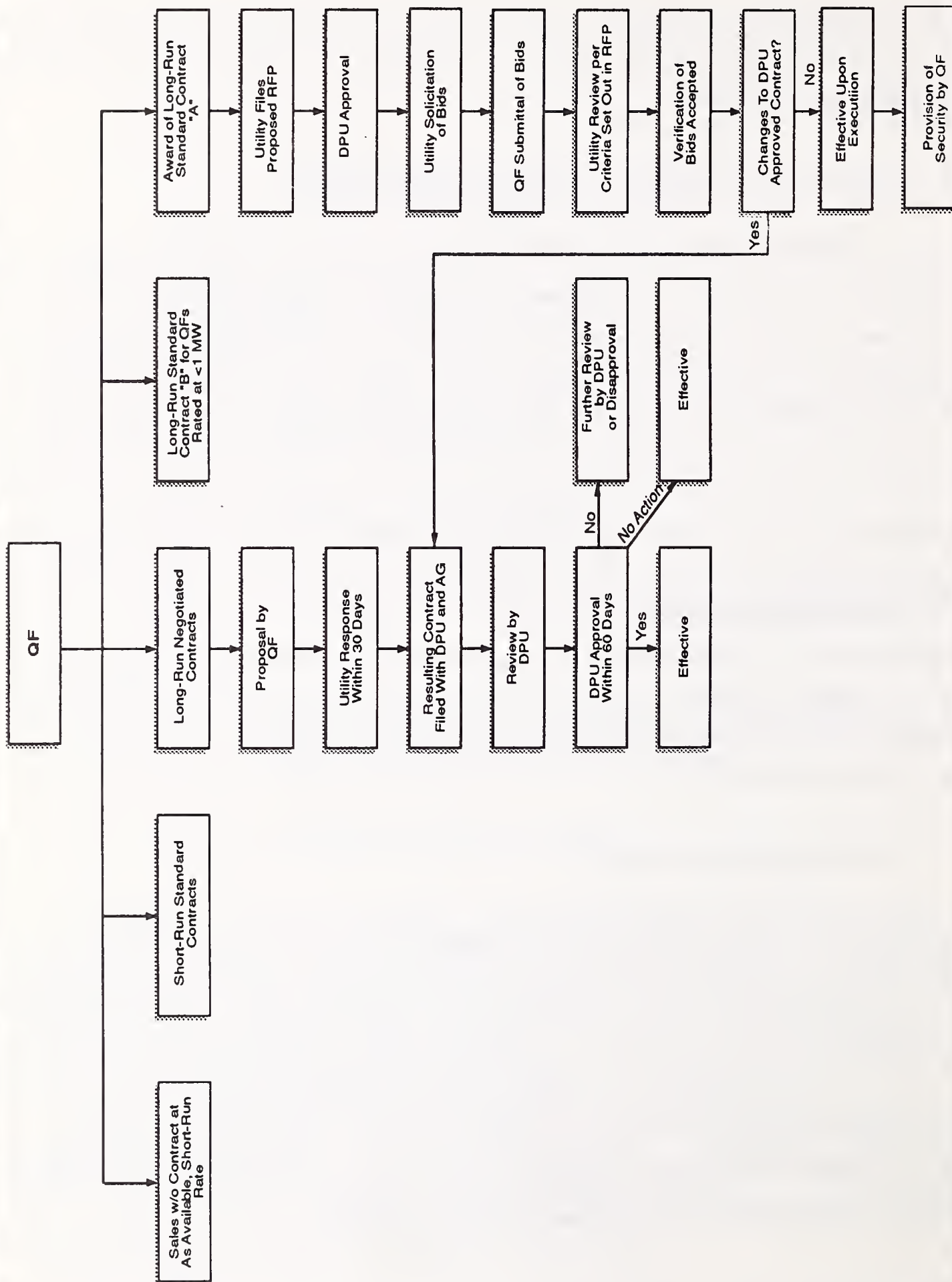


FIGURE 4-2: METHODS OF CONTRACTING FOR SALES OF ENERGY AND CAPACITY BY QFS TO UTILITIES



#### 4.5.3.3 Long-Run Negotiated Contracts

A QF and a utility may enter into a negotiated contract. No such agreement may become effective until 60 days after it has been filed with the DPU and the Massachusetts Attorney General (unless the DPU approves the agreement within a shorter time). The DPU may approve or disapprove the agreement within the 60 days. In practice, the DPU generally issues its decision at the end of the 60-day period. If the DPU does not issue a decision within 60 days of the filing date of the agreement, the agreement is deemed approved and can become effective. Under the regulation, the DPU's approval of a negotiated contract means that costs incurred by a utility for the purchase of electricity from a QF under the approved contract are recoverable through rates charged to the utility's customers for the term of the contract.

Accordingly, the DPU scrutinizes proposed contracts to assure that the price and other elements of the contract are beneficial to the utility's ratepayers over the long run. The principal issue is whether the present value of the schedule of projected payments to the QF is less than the present value of the utility's projected long-run avoided cost for obtaining equivalent power from its own or other sources. Obtaining the DPU's approval requires the utility and the QF to supply substantial information to support the benefits of the contract, including forecasts of the utility's power needs and sources of power supply; alternative scenarios for energy costs; and information on the reliability of the QF's ability to supply power. Generally, the DPU permits "front-loaded" payment structures whereby the utility's payments in the earlier years of a long-run contract exceed its long-run avoided costs, as long as the projected present value of the total payments to the QF over the course of the contract eventually falls below the present value of the utility's long-run avoided costs. The long run normally is projected for 20 years.

The regulation provides that a QF can propose a contract to a utility, and the utility must respond within 30 days. Further exchanges are also subject to 30-day response deadlines. A QF may petition the DPU to investigate the reasonableness of a utility's negotiations if there is a failure to negotiate terms within 120 days of the initial offer.

#### 4.5.3.4 Long-Run Standard Contract "A" - The Bidding Procedure

The DPU's regulation, 220 C.M.R. Part 8, requires the utilities to submit proposed long-run standard contracts for fixed long-term pricing based on a utility's 20-year projection of avoided fuel, variable operation and maintenance, and capacity costs. Upon DPU approval, the utilities are required to award such contracts annually through a competitive solicitation and bidding procedure to seek supply of a specified block of power. Contracts are awarded to QFs with the best-scoring bids until the solicited power need has been satisfied. Contracts are entered into at the price bid by the QF, a price which may not exceed a maximum price approved

by the DPU and set out in the bid solicitation. Since the standard contract and the maximum price are approved by the DPU prior to the bid solicitation, the DPU's further approval is not required to execute and proceed under a long-run standard contract arranged through this procedure.

If the utility and an award QF negotiate changes to the DPU-approved standard contract after the QF is selected, and propose to enter into a contract that differs from the DPU-approved standard contract, the DPU must approve the contract before it may become effective. The contract is reviewed in the same manner as a long-run negotiated contract. In practice, the DPU often issues its decision in less than the required 60 days.

Additional details concerning these bid solicitation procedures and practical experience to date are provided below.

#### 4.5.3.5 Long-Run Standard Contract "B" - Non-Bid Process for Small QFs

The utilities are also required to propose for the DPU's approval a form of long-run standard contract for small QFs. Small QFs are those rated at one MW or less. Small QFs may sign long-run standard contract "B" without going through the bidding procedure. The price will constitute a weighted average of the prices bid by the most recent group of QFs that has received awards under the bidding solicitation. Execution of an approved long-term standard contract "B" by a QF and utility does not require further DPU approval.

#### 4.5.4 Massachusetts Utilities' Solicitations for QF Power Supply

The bidding procedure established by the DPU in promulgating 220 C.M.R. Part 8 in 1986 is a nationally innovative effort to encourage strong contributions by QFs to development of generating capacity. It goes beyond PURPA to require utilities actually to solicit power supply from QFs through procedures assuring that the most competitive QFs can obtain contracts. Results so far have been promising. Although the issuance of DPU-approved RFPs has proceeded more slowly than the annual pace envisioned by the regulation, in Massachusetts developers proposed approximately 150 projects in 1987 and 1988, totaling almost 5,500 MW in response to utilities' requests for 551 MW of new capacity.

Many of these projects are now under contract. It remains to be seen how many will successfully be sited, permitted and financed. Experience has demonstrated that many award group QFs have been cancelled due to problems in siting, environmental permitting or financing. For that reason, utilities are likely to propose, and the DPU to accept, increased emphasis on non-price factors in the bid scoring systems under the regulation.



#### 4.5.4.1 Massachusetts Electric Company (MECo) Exception

From the outset, some utilities have argued that the bidding procedure will encourage QF developers to propose unrealistic projects but still receive awards under the inflexible bidding procedures. The utilities have urged that negotiated contracts permit the utility more flexibility to assess a proposal's viability and to tailor power purchase contracts to particular projects, and therefore offer a superior method for actually developing projects.

The DPU recognized the merit of this position by exempting one utility, the Massachusetts Electric Company (MECo) from the bidding procedures. In exchange, MECo has issued requests for proposals for long-term negotiated contracts, and has filed two annual reports so far comparing the results of its approach with the results of the other utilities under bidding procedures. These reports, listed in the references section (Appendix C) to this Guidebook, provide useful analyses of the factors influencing the success of QF developers in Massachusetts under both the bidding and the negotiation approaches.

The next section outlines the procedural steps in the bidding process. The following section summarizes the experience thus far under the bidding procedure.

#### 4.5.4.2 Outline of the Bidding Procedure

The goal of the bidding process is to attract, evaluate and select QFs on a competitive basis to sell energy or capacity on a long-term basis. Under the regulation, utilities issue a DPU-approved RFP approximately every 18 months. Each RFP includes a standard contract, and specifies a supply block of power with a maximum price based on the utility's projected cost of supplying that power for a 20-year planning period. The net present value of the bid prices cannot exceed the net present value of the utility's ceiling price. Each QF proposal receives a score based on price and non-price characteristics, and is ranked competitively with other submissions. The best-scoring proposals sufficient to fill the requested supply block receive long-term contracts at the prices bid by the QFs.

Major components of the bidding process include:

- RFP approval by the Massachusetts DPU;
- Establishment of a Utility's Supply Block;
- Information contained in an RFP;



- Scoring Criteria;
- Submission of Bids;
- Verification of Bids by Contracting Utility; and
- Provisions for Financial Security.

These components are described below.

#### 4.5.4.2.1 RFP Approval by the Massachusetts DPU

To obtain DPU's approval of an RFP, a utility first submits a draft RFP to DPU at least 45 days before a proposed issue date. A copy must be sent to any party that requests one. DPU accepts public comment on the draft RFP. The comment stage of the process provides a QF developer with an opportunity to influence an RFP before it becomes fixed, and to gain information and additional planning lead time about a forthcoming RFP.

#### 4.5.4.2.2 Establishment of a Utility's Supply Block

A utility's supply block is based on the utility's demand forecast and optimal supply plan for the next 20 years, including power purchases, conservation and load management programs, and new generating units. The supply block must equal the greater of either the size of the utility's next avoidable capacity addition(s), or 5% of the utility's peak annual load. If no avoidable capacity is planned, then the supply block will be based on 5% of the utility's annual load, and the ceiling price will be based on the utility's long-run energy avoided costs.

The demand forecast and supply plan used in the RFP must be consistent with the most recent demand forecast supply plan submitted by the utility to the Massachusetts EFSC.

#### 4.5.4.2.3 Information Contained in an RFP

An RFP must list the available supply block and ceiling price schedule, explain the competitive bidding and ranking procedures to be used to evaluate responses, and specify any minimum or maximum threshold values that QFs must meet in order to be considered. The RFP must include oil and gas price projections, the assumed general inflation rate and other price escalation measures, the assumed discount rate, a method for QFs to estimate interconnection costs, and any pricing rules or constraints that the utility adopts to evaluate project proposals.

#### 4.5.4.2.4 Scoring Criteria

The criteria to evaluate QF proposals must be set forth and clearly stated in the RFP. Non-price criteria may include length of contract period, proposed in-service date, power production during peak and off-peak times, ease of acquiring siting and environmental permits, progress of the project, type of project, status of project financing, financial strength, financial risk, and amount of security deposit. Operating performance criteria are not required unless the QF agrees to be operated under "economic dispatch." These non-price factors can account for a major portion of QFs' scores.

#### 4.5.4.2.5 Submission of Bids

In submitting bids, QFs must specify their bid price, the amount of energy or capacity the project is expected to generate over time, and a pricing formula (e.g., levelized, front-loaded, floor price with escalating pricing, derived heat rate, etc.). In addition, the QF must submit information on the project's capacity factors, availability, dispatchability, interruptibility, voltage control, and location of interconnection. The bidder also submits information on all other elements of the scoring formula, and calculates his own summary score. The utility must keep the proposals sealed until the solicitation period ends.

#### 4.5.4.2.6 Verification of Bids by Contracting Utility

After bids are opened, contracts are not signed until the utility verifies the representations made in each winning bid (award group). Since all of the selection criteria have been approved by the DPU in the proposed RFP, no further DPU approval is required for the utility and the QF to execute and carry out the contract. If the utility and an award group QF negotiate and enter into a contract that differs from the standard contract for the RFP, the DPU must approve the contract before it may become effective (See Section 4.2.3).

#### 4.5.4.2.7 Provisions for Financial Security

Under the regulation, financial security is required on all contracts upon execution. If the project begins commercial operation on or before the scheduled in-service date, the deposit and any interest are returned to the QF. If the project begins commercial operation after the scheduled in-service date, the QF receives the principal and interest accumulated through the



scheduled in-service date and the utility receives any interest accumulated after the scheduled in-service date. On the other hand, if the project is cancelled, withdrawn, or otherwise terminated before the proposed in service date, the utility and QF will proportionately split the deposit based on the amount of time elapsed since contract signing and project cancellation. If the project is cancelled, withdrawn or otherwise terminated after the proposed in-service date, the utility will receive the entire security deposit, plus any accumulated interest. These provisions can be altered through the DPU's approval of different arrangements in its approval of an RFP.

In addition, the regulation requires security on expected payments to the QF that exceed the approved ceiling price schedule (e.g., a front-loaded contract). The minimum security required is a junior lien on the power production facility. The DPU may, in its approval of a utility RFP, allow more stringent security requirements for front-loaded contracts.

#### 4.5.5 Back-up Power, Interconnection and Wheeling Issues

Utilities are required by the regulation to supply back-up power to QFs under rate schedules applicable to all customers with similar load characteristics. Should the QF be eligible for more than one rate, the QF may select the rate schedule. QFs and utilities are also free to negotiate their own back-up rates and contracts.

Utilities are also required by the regulations to wheel QF power to another utility upon request of the QF. If the provision of the requested wheeling services requires improvements or changes to the utility's transmission and distribution system, the QF must bear its share of the costs of such changes. The allocation of such costs is determined on a case-by-case basis. The DPU has the authority to investigate the allocation if the QF has complaints.

Utilities are required to interconnect with the QF at the QF's request. An initial inspection of the QF site, and a preliminary estimate of the cost of interconnection are provided at the expense of the utility. The incremental cost of interconnection, including engineering studies and any detailed cost estimates, and improvements or additions to the utility's transmission and distribution system, are the QF's responsibility. QFs selling under short-run rates can amortize their interconnection costs over a three-year period at an interest rate based on the utility's weighted average cost of capital. Prices charged for interconnection or metering equipment are the invoiced costs to the utility. The utilities must file tariffs with the DPU, which it may investigate. The tariffs must include standard rates for commonly-used interconnection equipment based on invoice costs, monthly charges for meter maintenance and readings, and carrying charges for interconnection costs and utility-owned metering equipment.

#### 4.5.6 IPP Contracts

The DPU also has jurisdiction over power sales from IPPs to Massachusetts utilities. Although the Massachusetts regulations implementing PURPA, 220 C.M.R. Part 8, do not apply to IPPs, M.G.L. c.164, § 94A requires DPU approval of all power sales contracts longer than one year between IPPs and Massachusetts utilities. Unlike DPU review of QF contracts, there is no limit on the time in which the DPU must issue a decision.









## 5.0 SITING AND ENVIRONMENTAL PERMITTING

### 5.1 Overview of the Siting and Environmental Permitting Process

Massachusetts' siting and environmental permitting processes are rigorous and can be lengthy. This section describes the state, Federal and local regulatory agencies and environmental permits relevant to many types of QFs or IPPs.

Early contact with agency officials and local community members may help to identify important issues and help to avoid delays during the permitting process. As agency responsibilities and application requirements evolve, developers are strongly encouraged to contact agency officials as early as possible during project development to ensure that the appropriate issues have been thoroughly addressed.

### 5.2 State Permits and Approvals

#### 5.2.1 Energy Facilities Siting Council (EFSC)

The EFSC was established by the State legislature in the mid-70's for the purpose of implementing energy policies to provide a necessary energy supply for the Commonwealth with a minimum impact on the environment at the lowest possible cost (M.G.L. c.164; 980 C.M.R. Parts 1.00-11.00). The Council is not part of any state agency. Since its establishment, the Council has reviewed proposals for a number of electric and gas transmission facilities, proposals for two large cogeneration projects, as well as annual forecasts and supply plans submitted by each of the state's utilities.

The EFSC is comprised of ten members: The Secretary of Energy Resources (Chair), Secretary of Consumer Affairs, Secretary of Environmental Affairs, Secretary of Economic Affairs, and six public members appointed by the Governor for three-year terms. These six public members include a representative of organized labor, and five individuals chosen for their expertise in the areas of the environment, engineering, and the oil, gas and electric industries. Public oil, gas and electric members may only vote on cases involving their respective areas of expertise. The Siting Council meets in open, public sessions, up to ten times per year, as needed, to review and vote on tentative decisions prepared by the EFSC staff (Staff). Staff consists of several full-time lawyers, engineers, economists, environmentalists and planners.



#### 5.2.1.1 Approval to Construct

The Siting Council accomplishes its mandate through review of 1) gas and electric utility forecasts and supply plans; 2) jurisdictional intrastate energy facility proposals by both utility and non-utility developers; and 3) intervention in FERC review of interstate energy facilities. Jurisdictional projects relevant to QFs and IPPs consist of:

- Generating facilities designed for or capable of operating at a gross capacity of 100 MW or more;
- Electric transmission lines with a design rating of 69 kilovolts (kV) or more and one mile or more in length;
- Ancillary structures such as fuel storage facilities which are an integral part of the operation of any electric generating unit or transmission line which is a jurisdictional facility; and
- Gas pipelines with a normal operating pressure in excess of 100 psig and one mile or more in length.

Proponents of cogeneration or IPP facilities that are deemed jurisdictional based on the above criteria must petition the Siting Council for an Approval to Construct. Siting Council approval for a jurisdictional facility is required prior to issuance of permits by other state agencies and commencement of construction.

#### 5.2.1.2 Approval to Construct - Application and Review Process

Proponents of jurisdictional facilities must file a petition for Approval to Construct with the Siting Council. A filing fee is required for non-utility developers.

Precedents for non-utility projects are somewhat limited. To date, the Council has approved two large cogeneration projects (NEA-Bellingham and Altresco-Pittsfield); petitions have been filed for several others. Proponents are encouraged to review previous facility decisions by the Siting Council, and to meet with Siting Council Staff prior to the preparation of a filing to ensure understanding of filing contents, requirements and the review process. While Siting Council Staff are available for discussions and guidance prior to the filing of a petition, once a petition is filed, the formal adjudicatory nature of the process precludes such informational discussions.

Generally, EFSC petitions include a project description, an assessment of the need for additional power, an economic and environmental analysis of the proposed project, and an evaluation of alternative technologies.

Alternate sites and/or routes must also be included in the filing. The proponent should be prepared to build on an alternate site or route if it is deemed by the Siting Council to have a lower cost and/or the least environmental impact.

EFSC review and approval follows a full adjudicatory process as outlined in Table 5-1. A decision is usually made within one year from the date of the filing, depending on completeness of application, response to Staff information requests, the degree of active intervention and Staff case load.

Staff review of a petition is based on statute, regulations and standards developed in previous cases, applied consistently to all facilities, as appropriate. Review is conducted at two levels: 1) project level and; 2) facility level.

Project Level Review - incorporates the Staff's determination of:

- Need for the energy resource (generating facility, transmission line or pipeline). In the case of an electric transmission line or gas pipeline proposal to serve a non-jurisdictional generating facility, this determination of need requires a determination of the need for the output from the generating facility.
- A comparison of alternatives (including "no-build" and non-jurisdictional approaches) based on cost, reliability and environmental impacts.
- A determination of project viability based on financiability, constructability, operability and fuel acquisition considerations.

Facility Level Review - includes review of site and/or route selection and comparison of the proposed site and alternatives on the basis of cost and environmental impacts.

The Siting Council may use information filed before other agencies (i.e., MEPA, DEP) in lieu of information developed specifically for its review. The Siting Council may, however, require more extensive information than that required by other agencies. To the greatest extent possible the Siting Council will attempt to minimize the burdensome and costly nature of such information requests.

TABLE 5-1  
ENERGY FACILITIES SITING COUNCIL (EFSC) PROCESS

- Applicant meets with EFSC to discuss proposed project.
- Applicant files petition. A filing fee is required for non-utility projects.
- EFSC Staff requires the applicant to publish a public notice detailing the proposed and alternate site/route. The notice is published in local newspapers to ensure residents and abutters are informed.
- EFSC Staff visit to proposed and alternative sites.
- EFSC Staff conducts a public hearing in proposed and alternate site areas. A minimum of three weeks must elapse between publication of the notice and the public hearing. The public hearing is the first opportunity for local residents to comment on the project.
- Thirty days after the filing is submitted, public hearing notices must be received from parties wishing to be "intervenors" or "interested parties" in the adjudicatory proceeding. Late petitions for intervention will be considered by the EFSC on a case-by-case basis.
- One or more prehearing conferences may be held to rule on motions regarding intervention, establish the ground rules, other related issues.
- One or more rounds of information requests are made by EFSC Staff or intervenors. (The first round of information requests may precede the prehearing conference.)
- Formal adjudicatory hearings are held to establish a complete record for the case. The hearing sessions are typically held on an every-other-day schedule.
- EFSC Staff, the applicant and intervenors make "record requests" throughout the hearing.
- The record is closed; the applicant and intervenors file summary briefs.
- EFSC Staff prepares a tentative decision.
- Prior to a scheduled meeting of the EFSC the tentative decision is delivered to all parties. Parties have seven days in which to make comments on the tentative decision. The EFSC normally meets every six weeks.
- The EFSC meets to discuss the tentative decision; applicant and intervenors may be present and may contribute to the discussion. The EFSC then votes. They may approve, approve with additional conditions, reject, or return the tentative decision to EFSC Staff for further work.
- Assuming the decision is approved, intervenors have 30 days to file notice of appeal before the Supreme Judicial Court. Absent such notice, the EFSC decision is final.



### 5.2.1.3 Override Authority - Certificate of Environmental Impact

The Siting Council has the authority to grant a Certificate of Environmental Impact and Public Need to previously approved facilities which are prevented from constructing a facility as a result of delays, inconsistencies, or conditions imposed by other state or local agencies. The issuance of a Certificate overrides other state or local authorities and permits the project to proceed. To date, the Siting Council has never been called upon to grant such a Certificate.

### 5.2.2 Massachusetts Environmental Policy Act (MEPA)

The MEPA process is the State's environmental impact review process for new development and state agency projects. The MEPA review process requires full disclosure of environmental impacts and a determination that all feasible measures have been taken to avoid or minimize adverse environmental impacts. MEPA review must be completed before any state agency may take action on projects subject to MEPA review. The review process is administered by the MEPA Unit of the Executive Office of Environmental Affairs. The MEPA regulations are found at 301 C.M.R. 11.00.

#### 5.2.2.1 MEPA Review Thresholds and Categorical Inclusions

Projects are subject to the MEPA review process if they exceed review thresholds which correspond to specific state agency permits (301 C.M.R. 11.26). Larger projects which exceed the "categorical inclusion" thresholds (301 C.M.R. 11.25) are presumed to have significant environmental impacts and are required to complete an Environmental Impact Report (EIR) before MEPA review is completed.

Categorical inclusion thresholds applicable to cogeneration projects include:

- New electrical generation units of 100 MW or more;
- New industrial facilities having the potential to emit 250 tpy or more of any air contaminant after imposition of the required controls;
- New fossil fuel utilization facility or fuel conversion to coal of an existing facility having an energy input capacity of 500 million Btu/hr or more;
- Any project using 100,000 gallons or more per day of water from a public water supply; and
- Any project which alters one or more acres of salt marsh or bordering vegetated wetland.



Any project subject to MEPA review may be required to prepare an EIR regardless of whether it is categorically included. EIR decisions on smaller projects are determined after a case-by-case review of an Environmental Notification Form.

#### 5.2.2.2 MEPA Review Process

The first step in the MEPA review process is the filing of the Environmental Notification Form (ENF) with the MEPA Unit. The ENF provides a description of the project and an initial assessment of the probable environmental impacts of the project. MEPA ENF submittal deadlines are twice a month, on the fifteenth and last day of the month. The ENF is distributed by the proponent to state agencies, local officials, and regional planning agencies. Copies of the ENF must be furnished free of charge to anyone who requests a copy during the review period. A Public Notice of Environmental Review is published by the applicant in a local newspaper prior to submittal of the ENF.

All ENFs received during the previous semi-monthly period are noticed in the Environmental Monitor, published twice a month by the MEPA Unit and widely circulated throughout the State. The publication date of the Monitor starts a 30 calendar-day review period on the project. Public and agency comments are due 20 days from the publication date. A consultation session and site visit is generally held during the 30-day review period.

On the 30th day of the ENF review period, the Secretary of Environmental Affairs issues a decision stating whether or not the project must prepare an EIR. If no EIR is required, then state agencies may act on the project. If an EIR is required, or if the project is "categorically included," the decision also establishes the Scope of study for the Draft EIR (DEIR).

#### 5.2.2.3 Environmental Impact Report (EIR) Preparation

Assuming that an EIR is required for the project, the project proponent prepares a Draft EIR which is responsive to the Scope. Submittal dates for the Draft EIR and subsequent EIRs are also twice a month, the fifteenth and the last day of the month. The Draft EIR is submitted to the MEPA Unit and distributed as directed in the Scope and the MEPA regulations. Notice of availability of the Draft EIR is published in the Monitor, the date of which begins a 37 calendar day review period. Written comments are due to the MEPA Unit by the 30th day of the Draft EIR review period and may be received from any state or public agency or members of the public. On the 37th day, the Secretary issues a decision which states whether the Draft EIR has adequately addressed the Scope or whether a Supplemental Draft EIR is required.

If the Draft EIR is deemed adequate, the decision will establish the Scope for the Final EIR. Mitigation measures must be clearly defined in the Final EIR and mitigation commitments must be identified. The Final EIR must also respond to comments received on the Draft EIR. Submittal, distribution and review procedures for the Final EIR are similar to the Draft EIR. After the close of the 30-day public comment period, the Secretary issues a decision on the adequacy of the Final EIR (37th day of the review period). A determination that the Final EIR is inadequate requires the submittal of a Supplemental Final EIR.

A 60-calendar-day legal challenge period runs concurrently with the 37-day review period on the Final EIR (or Supplemental Final EIR). Persons claiming to be aggrieved by the decision of the Secretary on the Final EIR must file a notice of intent to challenge the Secretary's decision by the close of the legal challenge period. State agencies may not issue permits for the project until the challenge period has elapsed. In this regard, MEPA review is identical to EFSC review; both must be completed before specific permits can be issued.

Figure 5-1 illustrates the MEPA review process. Allowing for preparation of the Draft and Final EIRs, the overall MEPA review process may take nine to twelve months at a minimum. Larger or more complicated projects may take longer. The only deadlines associated with the MEPA review process relate to the reviews of ENFs and EIRs. The MEPA Unit has a long history of strict adherence to these deadlines.

#### 5.2.2.4 Notice of Project Change

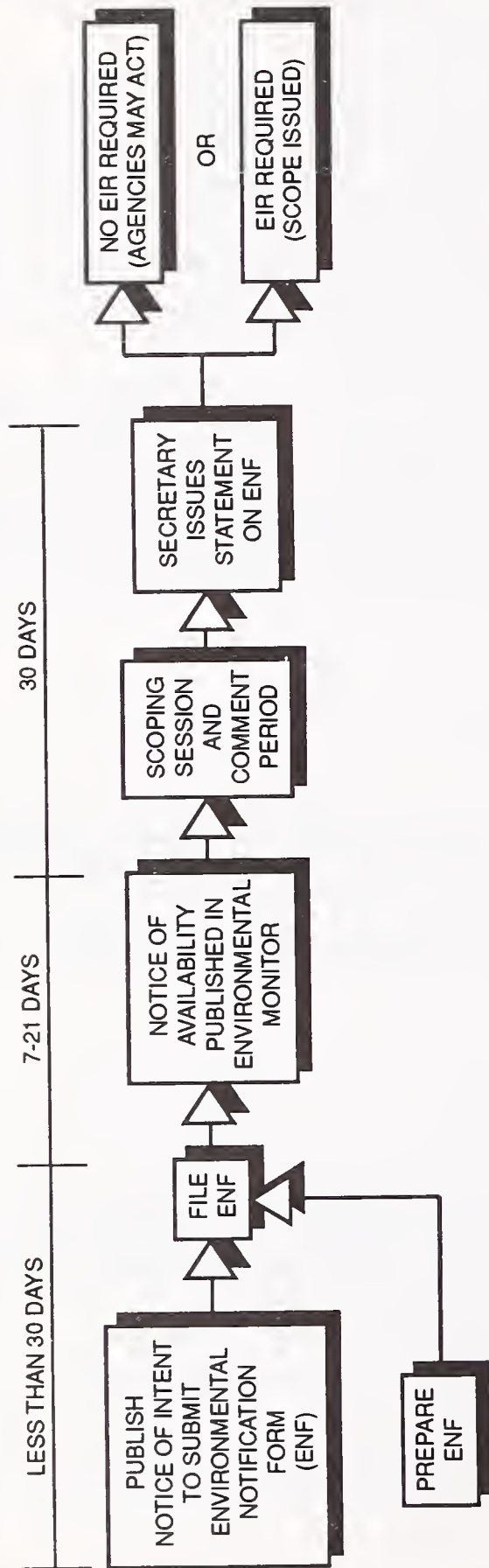
The MEPA regulations also require that the MEPA Unit be notified of substantive changes to projects which have completed MEPA review (see Project Change, 301 C.M.R. 11.17). Additional MEPA review may be required if the Secretary determines that it is warranted based upon review of the substance of the project change.

#### 5.2.2.5 Waivers of MEPA Requirements

Any of MEPA's requirements may be waived by the Secretary of the EOEA to prevent undue hardship. Hardship based solely on the time required to comply with MEPA's review procedures is not a sufficient basis for obtaining a waiver.



# ENVIRONMENTAL NOTIFICATION FORM



# ENVIRONMENTAL IMPACT REPORT

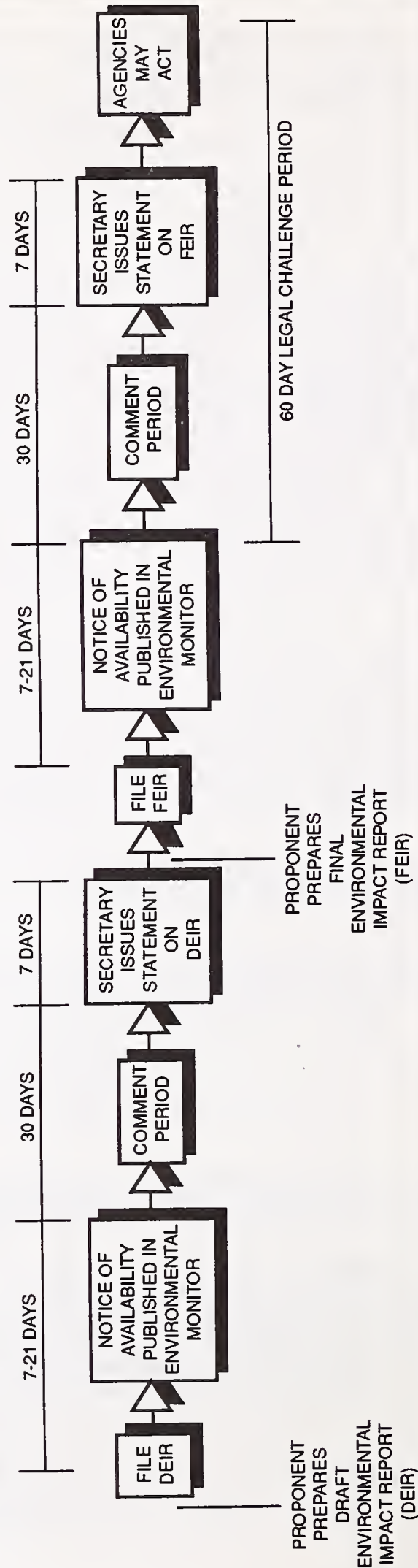


FIGURE 5-1:  
MEPA PROCESS FLOWCHART

The regulations provide the Secretary with the authority to waive preparation of an EIR even where the project is categorically included as requiring preparation of an EIR by the MEPA regulations. The Secretary may grant the waiver by finding that one or more of the following circumstances exist: (1) the impacts of the project are insignificant; (2) there is ample and unconstrained infrastructure to support the project; (3) the waiver is conditioned upon the proponent providing environmental benefits in excess of those that could be achieved without the waiver; or (4) the aspects of the project which cause it to be categorically included (e.g., direct alteration of 50 acres or more of land) are not within MEPA subject matter jurisdiction (i.e., do not require a state permit or approval). The burden is on the proponent to demonstrate that at least one of these exceptions apply, and to rebut the presumption that an EIR should always be required for a categorically included project.

A decision by the Secretary to waive preparation of an EIR for a categorically included project requires publication of a draft Record of Decision by the Secretary in the Environmental Monitor, and a two-week opportunity for public comment, before the decision can become final. Waivers of other aspects of the MEPA regulations may be accomplished through correspondence.

### 5.2.3 Department of Environmental Protection (DEP)

The DEP is within the Executive Office of Environmental Affairs (EOEA). The DEP administers the majority of the Commonwealth's environmental regulatory programs. DEP is comprised of a number of Divisions that address particular environmental areas. For most cogeneration or IPP projects, the Divisions that will likely be involved in environmental evaluation and issuance of permits include:

1. Division of Air Quality Control
2. Division of Water Pollution Control
3. Division of Water Supply
4. Division of Wetlands and Waterways Regulation
5. Division of Solid Waste Management
6. Division of Hazardous Waste

DEP's central office is located in Boston and four regional offices are located throughout the state (see Appendix B).



#### 5.2.3.1 Division of Air Quality Control (DAQC)

The DAQC is responsible for reducing air pollution by performing inspections and reviewing plans and specifications for new facilities that may be a source of pollution and, subsequently, inspecting those sources to determine compliance. Air quality standards and air pollution control regulations can be found in 310 C.M.R. Parts 6.00-8.00.

For most cogeneration and IPP projects air quality will be the critical environmental issue which determines the critical path for completion of the environmental licensing process, once beyond the MEPA and EFSC requirements. An overview of the Air Quality Planning Process is included in Table 5-2. A flowchart depicting the general PSD/Air Plans application process is included in Figure 5-2. Comprehensive DEP permitting procedures require all proposed facilities with a heat input rating of 3 million Btu/hr or greater to obtain an Air Plans Approval.

DEP will issue an Air Plans Approval if and only if the facility complies with:

- A case-by-case determination for control technology; and
- Ambient standards and state ambient guidelines.

The primary requirement is to meet DEP's determination of appropriate control technology which determines the amount of new emissions which can be emitted in the atmosphere. Then a developer must demonstrate that new emissions, after the application of controls, will not cause or contribute to violation of Federally enforceable ambient standards and state guidelines.

##### 5.2.3.1.1 Air Plans Review

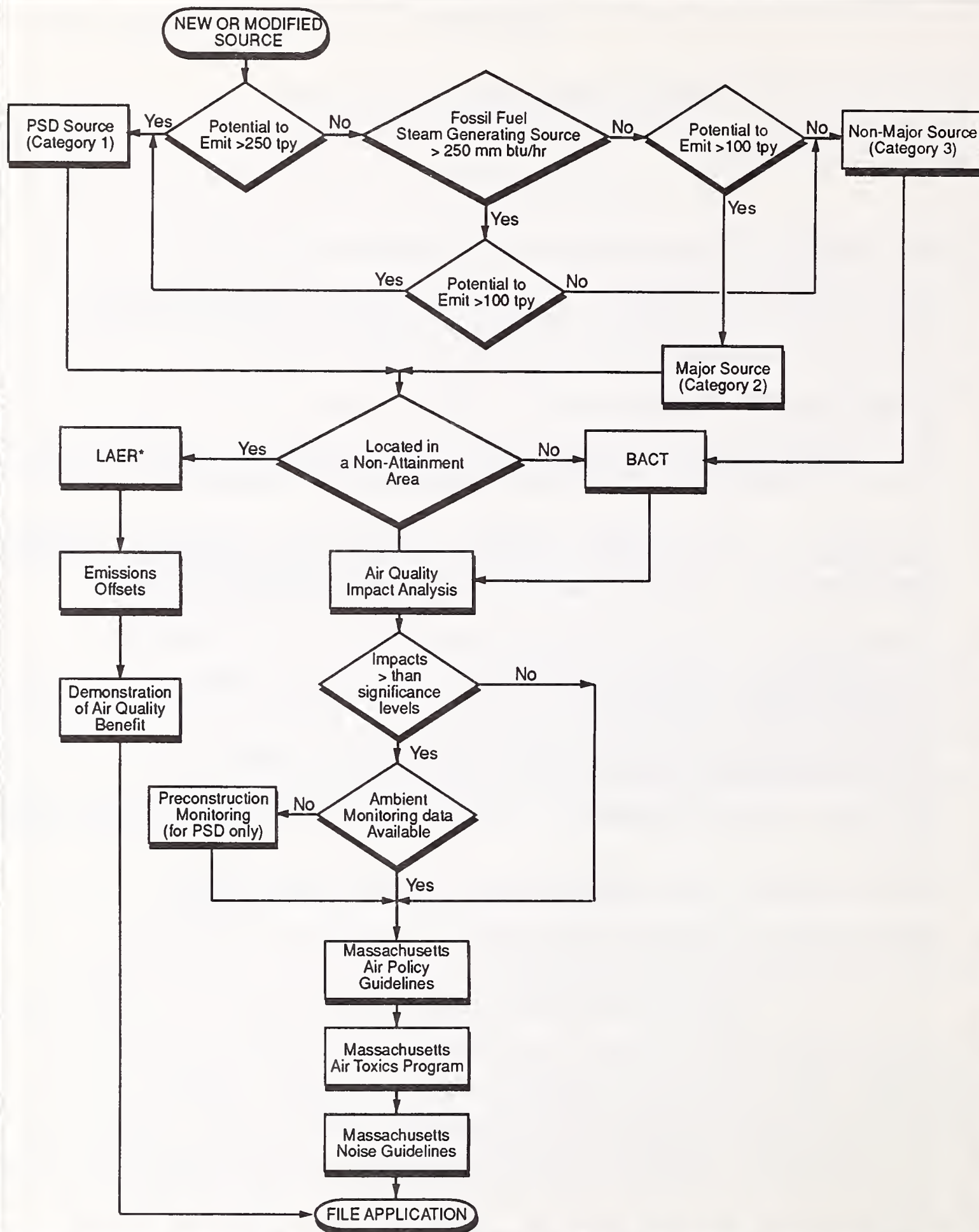
Although Air Plans Review will apply to all cogeneration and IPP projects the complexity of the process depends upon the facility's potential to emit new pollutants.

For larger facilities which have a potential to emit a regulated Clean Air Act pollutant at a rate greater than 250 tpy, Federal Prevention of Significant Deterioration (PSD) requirements must be addressed. The U.S. EPA has delegated full PSD review authority to the DEP and the DEP has consolidated PSD review into their Air Plans pre-construction review process.

TABLE 5-2

AIR QUALITY PLANNING PROCESS

- Determine BACT and incorporate into environmental planning of project.
- Determine PSD status (Category 1, 2, or 3) based on potential-to-emit calculation.
- Initial meeting with DEP to discuss air quality modeling protocol.
- Develop air quality modeling protocol.
- Demonstrate that facility emissions will not violate NAAQS, PSD increment limits and other state ambient air quality limits via an Air Quality Impact Assessment.
- If subject to PSD, determine whether pre-construction monitoring is required. Pre-construction monitoring may be waived if predicted impacts are below "monitoring significance levels" or if existing data which meets PSD requirements is available.
- Determination of LAER and determine emissions offsets for VOCs, if applicable.
- Determine ability to comply with Massachusetts Air Quality Guidelines, Air Toxics Program, and Noise Policy Limits.
- Submit complete PSD and Air Plans Application to DEP for review.
- DEP makes preliminary determination, subject to public comment and request for public hearing.
- Thirty-day public comment period after DEP's preliminary determination.
- DEP issues final determination within 30 days at end of public comment period.



\*Applies on a pollutant-specific basis and would affect VOC emissions due to statewide ozone non-attainment

FIGURE 5-2:  
PSD/AIR PLANS APPLICATION PROCESS



## Determination of PSD Status

The first step in the air quality planning process is to determine PSD status through a potential to emit calculation. If the facility has the potential-to-emit at 250 tpy or greater, PSD will definitely apply. PSD may also apply if the proposed facility is judged to be a fossil fuel-fired steam electric plant of more than 250 million Btu/hr of heat input and the facility's potential-to-emit is 100 tpy or greater. Combined cycle combustion turbine facilities are not considered electric steam plants and hence, are PSD facilities only at 250 tpy or greater. If PSD does not apply, the facility will fall into one of two lesser DEP permitting categories. If the facility's potential-to-emit is greater than 100 tpy but less than 250 tpy then the facility is a non-PSD facility but is considered to be a "major source" under DEP regulations. If the potential to emit is less than 100 tpy, then the facility is considered a non-PSD facility and non-major source under DEP regulations. The three categories for air quality permitting are summarized as follows:

- Category 1: Major PSD Source requiring full PSD review and an Air Plans filing.
- Category 2: Major DEP Source requiring an Air Plans filing.
- Category 3: Non-major DEP Source requiring an Air Plans filing.

The most demanding air quality permitting category is Category 1 with Category 2 a close second. Category 3 may be a relatively straightforward permit, but this would depend upon existing air quality conditions near the site.

## PSD Requirements for Category 1 Facilities

The three major components of the PSD permitting program are the Best Available Control Technology (BACT) assessment, the Air Quality Impact Assessment and Preconstruction Monitoring.

- Best Available Control Technology - Demonstration of the use of BACT is the driving force for PSD permitting. DEP will make a case-by-case determination regarding the application of appropriate emission controls. BACT controls must be at least as stringent as the applicable Federal New Source Performance Standard (NSPS) and must account for tradeoffs among energy penalties, project economics and environmental impacts. BACT is often considerably more stringent than the applicable NSPS. The BACT Guidelines should be reviewed by the developer when preparing for Air Plans Review.



DEP has chosen to be rigorous in their consideration of control technology and their determinations of BACT for cogeneration facilities and power plants. In conformance with U.S. EPA policy, they require a "top-down" assessment, which means that the air plans applicant must evaluate the most stringent controls first. This assessment of control technology must take into account environmental impacts and energy penalties. If the most stringent level of control can be eliminated on this basis, then the next most stringent level of control can be considered as "best." The BACT analysis stops when the level of control cannot be eliminated by the assessment criteria. DEP is following the BACT Guidelines and emission limit recommendations established by the Northeast States for Coordinated Air Use Management (NESCAUM). For example, a recent DEP BACT determination for large combined cycle gas-turbine project required a 9 parts per million (ppm) NO<sub>x</sub> limit through the use of ammonia injection and selective catalytic reduction (SCR). The 9 ppm limit, which is consistent with a specific NESCAUM recommendation, was determined from a "top-down" BACT assessment, as outlined in the NESCAUM BACT Guidelines. Developers of a power plant facility should closely examine recent DEP BACT determinations and related advances in technology. The information should be incorporated into a project's environmental planning and economic projections. A PSD/Air Plans application which comprehensively addresses DEP's preferences for a "top-down" BACT analysis is likely to be processed in a more expeditious manner than applications which do not meet their expectations. An incomplete BACT analysis, or one that does not recommend the "best" option, may result in a delay in the processing of a permit.

- The Air Quality Impact Assessment - The second component of the PSD permitting program is the Air Quality Impact Assessment which must demonstrate that after BACT controls, facility emissions will not cause or contribute to a violation of state and National Ambient Air Quality Standards (NAAQS), PSD increment limits or other state ambient air quality guidelines. The Air Quality Impact Assessment is based on an air quality modeling assessment using approved U.S. EPA models and modeling procedures.

To conduct an air quality impact assessment one must conduct air quality modeling of facility emissions and possibly emissions from other nearby existing and permitted facilities. DEP air quality modeling procedures and model preferences are derived from the U.S. EPA Guideline on Air Quality Models. The air quality modeling process starts with the submission of an air quality modeling protocol to the DEP for their review and comment. Permit level modeling can proceed after DEP comments are incorporated into the modeling protocol. After the modeling is completed the results are incorporated into a technical support document and submitted with the Air Plans Application forms to the DEP.

In almost all cases, the MEPA Draft EIR scope will require an air quality analysis. Therefore, it is advisable to submit the protocol to the DEP during the MEPA review and to conduct permit level modeling for the proposed project in the Draft EIR. This will have the added benefit of expediting the Air Plans/PSD approval in that the DEP air quality staff will have reviewed permit level modeling in the Draft EIR. Hence, when the Air Plans/PSD permit is submitted to the DEP they will see the modeling for a second time.

- Preconstruction Monitoring - The third component of PSD permitting is a consideration of Preconstruction Monitoring. This specific PSD requirement must be rigorously addressed for every PSD application, as the applicant is required to conduct up to one year of preconstruction ambient monitoring. This requirement may be waived if predicted (modeled) facility impacts are below "monitoring significance levels" or if existing data meeting PSD requirements are available. These data are needed to support the air quality impact assessment and are used for determinations of background air quality and in some cases as a source of site specific meteorological data.

#### Permitting Requirements for Category 2 and Category 3 Facilities

If the facility is not a PSD facility but a major DEP source, permitting requirements are very similar and require the same level technical support and impact assessment. The exception is that the PSD preconstruction monitoring is not a permit requirement. The significant difference associated with a non-PSD filing is that the Air Plans Application is not a PSD submission and, therefore, U.S. EPA overview involvement is minimal. This can in some circumstances "speed up" the DEP processing of the applications.



For smaller facilities which qualify as a DEP non-major source (Category 3) the Air Plans Application may be simpler and quicker. Such facilities must still meet DEP BACT requirements; however, in many instances, relatively simple air quality modeling will demonstrate "de minimis" or insignificant impacts. Provided that the proponent has met DEP's determination of BACT, a demonstration of insignificant impacts will expedite review and approval. However, in cases where existing air quality is marginal and/or air quality modeling does not show insignificant impacts, permitting of a non-major source will be demanding and similar to a major source.

#### Lowest Achievable Emission Rate

In some cases, control technology requirements can be more stringent than BACT and may be coupled with emission offsets from existing sources. The more stringent controls are referred to as Lowest Achievable Emission Rate (LAER) and differ from BACT in that a LAER determination cannot consider economic or energy penalties. The LAER and emission offset requirements could materialize if a plant is a PSD (Category 1) or major DEP (Category 2) source and the project site is in a non-attainment area for a pollutant to be emitted at a rate of 100 tpy or greater. Since the entire State of Massachusetts is non-attainment<sup>1</sup> for ozone, LAER and offsets will apply to Volatile Organic Compounds (VOCs), a precursor pollutant for ozone, if the proposed facility has the potential to emit VOCs at a rate of 100 tpy or greater. This state-wide ozone problem will generally affect larger facilities of approximately 200 MW or greater, depending upon combustion technology and fuel use. For such facilities, the emission offsets requirement can be a significant permitting requirement with significant economic impact. In addition to locating creditable offsets, the proponent should be prepared to purchase VOC offsets from an existing source at what may be a considerable expense. Such offsets could cost between \$5,000 and \$10,000 per ton of VOC removed. The challenges of locating usable offsets should not be underestimated in the planning of a project.

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<sup>1</sup> A Non-Attainment area is defined in the Massachusetts Air Regulations (310 C.M.R. Part 7.00) as "any area determined by the Administrator as one in which the ambient air concentration of a criteria pollutant exceeds a National Ambient Air Quality Standard." An Attainment area is defined as an area "in which the ambient air concentration for a criteria pollutant does not exceed a primary or a secondary National Ambient Air Quality Standard."

#### 5.2.3.1.2 Additional Massachusetts Guidelines and Programs

In addition to Federal requirements, Massachusetts has established 1) Air Quality Guidelines for the Air Plans Review process, 2) An Air Toxics Program, and 3) Noise Guidelines. These are discussed below.

Massachusetts Air Quality "Policy Limits" - 1-Hour NO<sub>2</sub> Policy for Major Source - DEP has adopted a stringent policy regarding allowable exposures to short-term (1-hour) ambient NO<sub>2</sub> concentrations. This policy guideline was adopted in 1980 as a result of the Air Plans review of a controversial diesel-based cogeneration facility in Boston's Longwood medical area. Although this guideline is not specifically referenced in regulations, it essentially has the same effect as a 1-hour NO<sub>2</sub> ambient air quality standard for a new major NO<sub>x</sub> source. This applies to any new major source (or modification) which causes an increase in NO<sub>x</sub> emissions greater than 250 tpy.

The requirements of this policy guideline are that the new major source will not result in ambient NO<sub>2</sub> concentrations in excess of 320 micrograms per cubic meter (ug/m<sup>3</sup>) for any 1-hour period on more than one day per year. This assessment must include the impact of background and existing sources, as well as the new source. For areas where the impact of background and existing sources already exceeds 320 ug/m<sup>3</sup> (as may sometimes be the case at certain "hot spot" locations in the Boston area), the impact of the proposed major source will be acceptable if it will not increase the hourly NO<sub>2</sub> concentration by more than 32 ug/m<sup>3</sup> on more than one day per year.

Massachusetts Air Toxics Program - The DEP has also been in the process of developing an air toxics program for the past several years. Draft "Allowable Ambient Limits" (AALs) and "Threshold Exposure Limits" (TELs) have been developed for about 100 toxic air pollutants, including several trace metals. These limits currently apply to new waste-to-energy plants. AALs and TELs for additional chemicals will continue to be developed as they become necessary.

DEP's Office of Research and Standards (ORS) may also be involved in the evaluation of environmental and health aspects of permit approval. Although ORS is not directly involved in the permitting of new facilities, the agency often provides input by reviewing and/or conducting health or environmental assessments as requested by other DEP divisions.



Massachusetts Noise Guidelines - As part of the Air Plans Approval process, the DEP also reviews the noise impacts of the facility at off-site locations. DEP has a guideline that noise control is to be incorporated in order to limit the increase in noise levels at off-site locations to no more than a 10 decibel (dBA) increase above existing residual noise levels, as well as the elimination of pure tones. For facilities that will operate on a 24-hour basis, this policy is enforced including the period of lowest expected residual noise levels (i.e., weekday or weekend night). Proponents are encouraged to keep noise increments as far below the 10 dBA limit as is feasible.

#### 5.2.3.1.3 Time Assessment for PSD/Air Plans Review Process

The procedural aspects of DEP PSD/Air Plans review call for the DEP to complete review of a PSD application within 120 days of receipt of a complete PSD application and all supporting documentation. At this time, a preliminary determination is issued, subject to public comment and a request for a public hearing. If a public hearing is requested and held, an additional 30-day comment period is provided after the public hearing, and the DEP then has 30 additional days to issue a final determination. As with all state agency permits, the agency normally does not begin a formal review effort until after the MEPA Final EIR public notice has been issued. A likely timeline for completing the air permitting process, including preliminary studies, modeling and application preparation may be 12-18 months for a Category 1 or 2 facility.

#### 5.2.3.2 Division of Water Pollution Control (DWPC)

The DWPC is responsible for the prevention of water pollution in the State and, in turn, the improvement of water quality. In this effort, the DWPC regulates wastewater treatment facilities and issues permits regulating surface and groundwater discharges. Additionally, DWPC is responsible for sewer connection and extension permits (issued in conjunction with Massachusetts Water Resources Authority (MWRA) or local sewer authorities) and for water quality certification with respect to Federal permitting of water issues.

##### 5.2.3.2.1 Surface Water Discharge Permit

Any project that requires surface water discharges triggers the requirements of the Federal National Pollutant Discharge Elimination System (NPDES) program. Federal EPA Region I and the DEP have signed a Memorandum of Understanding whereby NPDES permits are issued

jointly by both agencies, with both agencies conducting technical reviews. The Massachusetts Surface Water Discharge Permit technical review is accomplished during the DEP portion of the joint Federal/State NPDES permit review. The Surface Water Discharge Permit requirements are satisfied upon the issuance of the joint Federal/State NPDES permit. Massachusetts regulations for Surface Water Discharge permits are 314 C.M.R. Part 3.00. Surface Water Quality Standards are included in 314 C.M.R. Part 4.00. They are currently being revised to incorporate quantitative standards for toxics. The statute regulating surface water is M.G.L. c.21 §§ 26-53.

Discharges requiring a permit include, but are not limited to, all point source discharges of pollutants to surface waters from publicly and privately owned treatment works and from manufacturing, commercial or mining processes, whether treated or untreated.

#### Stormwater Discharge to Surface Water

Currently, DWPC has discretionary authority to require a Surface Water Discharge Permit for stormwater runoff from an individual property. Stormwater discharge is defined in 314 C.M.R. Part 5.04(2)(a) and includes, but is not limited to, stormwater runoff contaminated by contact with process waste or other hazardous substances. While most new industrial facilities do require a Surface Water Discharge Permit for the discharge of process wastewater under current state regulations, EPA is in the process of developing regulations that would require a Surface Water Discharge Permit for all stormwater runoff. These regulations will be implemented by October 1, 1992. The effluent limitations in the Surface Water Discharge Permit are designed to satisfy water quality standards applicable to the receiving waters under the Massachusetts Surface Water Quality Standards (314 C.M.R. Part 4.00).

#### Surface Water Discharge/NPDES Application Process

Applicants for a Surface Water Discharge/NPDES permit must apply at least 180 days prior to the date the discharge is to commence.

To obtain an application for a joint Surface Water Discharge/NPDES permit, application should be submitted to the EPA Region I office in Boston. Although EPA circulates a copy of the application to the DWPC at the DEP, the applicant is advised to send a copy of the application to DWPC directly. Applications should include a description of the facility, amount of discharge, type of discharge and a hydrological investigation of the site.



## Surface Water Discharge/NPDES Review Process

Upon initial review, a tentative decision to issue or deny the permit is made. If the decision is favorable, a draft permit is prepared by the agencies, outlining the terms and conditions of the permit, along with a project fact sheet.

The agencies give public notice of the issuance of the draft permit and a 30-day comment period follows. A public hearing may be held. At the close of the comment period, the permit will either be issued or denied. If approved, the permit becomes effective immediately; however, if objections to the issuance of a permit are received, requests for an adjudicatory hearing may be filed at that time.

### 5.2.3.2.2 Groundwater Discharge Permit

Any facility which discharges a liquid effluent onto or below the land surface, either directly or via subsurface leaching, requires a groundwater discharge permit. The DWPC issues such permits. The effluent limitations of this permit must meet the water quality standards applicable to the receiving waters under the Massachusetts Groundwater Quality Standards (314 C.M.R. Part 5.00).

## Stormwater Discharge to Groundwater

Stormwater discharge may require a Groundwater Discharge Permit if there is a potential for contamination by contact with process waste or other hazardous substances. Massachusetts Groundwater Quality Standards are included in 314 C.M.R. Part 6.00.

## Groundwater Discharge Permit Application Process

The application process for obtaining a Groundwater Discharge Permit is similar to that required for a Surface Water Discharge Permit. The application must be made 180 days prior to the date of discharge and requires a hydrological investigation of the site. DWPC review may take between five and six months.

### 5.2.3.2.3 Sewer Extension/Connection Permit

Any extension or connection to a public sewer system conveying industrial waste requires a Sewer Extension/Connection Permit from the DWPC. Assuming that adequate capacity can be demonstrated in the local sewer system, and pretreatment standards can be satisfied, this DEP approval is generally a routine matter. The regulations for wastewater discharge are 314 C.M.R. Part 7.00.

The MWRA operates as a local authority and collects and treats sewage in the Metropolitan Boston area. The MWRA requires an Industrial User Discharge Permit for any discharger of industrial wastes to an MWRA or tributary sewer system. Adequate facilities as required to provide for compliance with MWRA pretreatment limits must be demonstrated. Sites outside of the Metropolitan Boston area must comply with their local sewer authority pretreatment limits. Developers should be aware that some local communities have imposed moratoriums on new sewer discharges that do not provide compensatory reductions of flows through inflow/infiltration improvements.

#### Plans Approval

If any pretreatment or wastewater treatment equipment is to be installed, the DWPC requires a plans approval for this equipment. This requirement would apply to neutralization equipment for boiler makeup water regenerant wastes, and to oil/water separation equipment (314 C.M.R. Part 12.00).

#### Sewer Extension/Connection Permit Application Process

Applications to the DWPC for sewer extension/connection permits must first be approved by the municipality or district to whose sewer system the connection or extension is to be made. The application must specify sewerage flow rates and constituents. Applications may be obtained from the municipal/district sewer system owner and sent to DWPC along with construction plans and specifications for the proposed construction. For those facilities that are served by the MWRA sewer system, an Industrial User Discharge Permit is required. DWPC will make an initial determination to issue or deny the permit and will set forth conditions. A public notice of the initial determination will be made followed by a 30-day comment period. A public hearing may be held. DWPC will issue a final determination. Appeals may be requested within 14 days. Review of an application for a sewer extension or connection may take three to four months.

#### 5.2.3.2.4 Water Quality Certification

The DWPC is also responsible for issuing Water Quality Certificates to ensure that any discharge of fill into waters of the Commonwealth does not adversely affect water quality. Project proponents must file for this Certificate if activities are proposed in either wetlands or waterways.



Section 401 of the Clean Water Act (33 U.S.C. § 1341) requires that persons seeking a) a Federal permit to discharge pollutants to navigable waterways; b) an NPDES permit or c) a Federal permit for work in wetlands or waterways (a Section 404 permit), must first obtain a State Water Quality Certificate to ensure that the proposed discharge or work will not violate applicable Federal or state discharge limitations or water quality standards. The State's regulation implementing this program is at 314 C.M.R. Part 9.00. These regulations provide specific standards for disposal of fill in wetlands, tidelands or open waters.

#### Water Quality Certification Application Process

While certain types of activities require substantial presentation of water quality data, there is a short form available for stream crossings and fill in wetlands. An assessment of the proposed work must accompany the application including a copy of the Order of Conditions and notification of MEPA compliance, prior to action on a Water Quality Certification. Following submittal of the application, DWPC has 30 days to accept the filing as complete. There is no regulated timeframe for a final decision. DWPC and the Army Corps of Engineers (COE) have developed several Memorandums of Understanding allowing for abbreviated review for certain types of projects (see Section 5.3.3).

#### 5.2.3.3 Division of Water Supply (DWS)

The DWS oversees the protection of all proposed surface or groundwater sources to ensure the availability of a safe and adequate source of water for the public. The Division protects public water supply sources from possible pollution and regulates cross-connections between water supply sources to prevent bacterial or dangerous chemical contamination of public water supplies. DWS is also responsible for enforcing the recently enacted Water Management Act (M.G.L. c.21G) regulating water withdrawals within the Commonwealth.

##### 5.2.3.3.1 Water Withdrawal Permit

M.G.L. c. 21G, the Water Management Act, authorizes the DEP to regulate the quantity of water withdrawn from surface and groundwaters of the Commonwealth. Withdrawals are regulated to protect existing users and the environment and to ensure that competition for water does not jeopardize the reliability of any source. Through management of the surface and groundwater as one hydrologic unit, the DEP intends to protect the ability of present and future users to withdraw adequate quantities of water without overburdening the water resources of the Commonwealth.

The Water Management Act regulates withdrawals in excess of 100,000 gallons per day (gpd). This threshold volume may be adjusted downward at the discretion of the DEP in the future, in order to protect the waters of the Commonwealth. Withdrawals in excess of an average of 100,000 gpd which occurred between 1981 and 1985 in one river basin were to be registered with the DEP by January 4, 1988, except non-consumptive uses which are exempt from the requirements of the Act. Registration was a one-time-only opportunity unless the DEP reduces the threshold volume below 100,000 gpd in the future.

### Permit Requirements

All unregistered withdrawals in excess of 100,000 gpd initiated after January 1, 1986, require a permit from the DEP. Permits are not required until the effective date of the regulations in the river basin in which the withdrawal exists (see Table 5-3). Permits are also required for increases over 100,000 gpd of volumes which have been previously registered. Permit requirements apply to the withdrawer of the water. Purchasers of water from a withdrawer (e.g., purchases from a public water supply) do not require permits.

Permits are valid for up to 20 years from the effective date of the permit program in each river basin. (In some portions of stressed river basins, the DEP may limit permits to five-year terms.) Permits authorize the withdrawal of a finite daily volume over time and may allow for increases in five-year blocks. Volumes requested must be supported by demand projections. Permits may be amended and renewed. Annual reports and five-year reviews are required of all permit holders.

### Safe-Yield Determination

Decisions on permits are based upon the availability of the requested volume within the river basin or sub-basin. This so called safe yield is determined by the DEP in consultation with the Department of Environmental Management (DEM). The safe yield will be based on minimum stream flows adopted by the Water Resources Commission. Permits protect the minimum stream flow by regulating withdrawals based on flows actually measured in nearby streams during low-flow periods. Withdrawals may be cut back due to stream flow constraints during portions of the year. Potential permit holders can minimize required cutbacks by designing water use systems which return water used back to the basin with minimal loss, and by avoiding inter-basin transfers of water. (Inter-basin transfers, administered by the Water



**TABLE 5-3**  
**MASSACHUSETTS RIVER BASINS**  
**WATER WITHDRAWAL PERMIT DATES**

<u>Water Source</u>	<u>Effective Date of First Application Filing</u>	<u>Completed Applications</u>	<u>Subsequent Filings</u>	<u>Subsequent Completed Applications</u>
Hudson River Basin	August 31, 1988	February 28, 1989	August 31, each year	February 28, each year
Blackstone, Charles Basins	February 28, 1989	August 31, 1989	February 28, each year	August 31, each year
Ipswich, North Coastal Basins	August 31, 1989	February 28, 1989	August 31, each year	February 28, each year
Boston Harbor Taunton Basins	February 28, 1990	August 31, 1990	February 28, each year	August 31, each year
South Coastal, Cape Cod Basins	August 31, 1990	February 28, 1991	August 31, each year	February 28, each year
Islands, Buzzards Bay Basins	February 28, 1991	August 31, 1991	February 28, each year	August 31, each year
Concord, Ten Mile Basins	August 31, 1991	February 28, 1992	August 31, each year	February 28, each year
Deerfield, Housatonic Basins	February 28, 1992	August 31, 1992	February 28, each year	August 31, each year
Farmington, Westfield Basins	August 31, 1992	February 28, 1993	August 31, each year	February 28, each year
Millers, Connecticut Basins	February 28, 1993	August 31, 1993	February 28, each year	August 31, each year
Quinnebaug, Chicopee Basins	August 31, 1993	February 28, 1994	August 31, each year	February 28, each year
Nashua, French Basins	February 28, 1994	August 31, 1994	February 28, each year	August 31, each year
Shawsheen, Merrimack Basins	August 31, 1994	February 28, 1995	August 31, each year	February 28, each year
Parker, Narragansett Basins	February 28, 1995	August 31, 1995	February 28, each year	August 31, each year



Resources Commission and regulated under the Inter-basin Transfer Act (M.G.L. c.21 § 8b-8d), apply to significant transfers of one million gallons per day (MGD) or more across municipal boundaries and river basins. Interbasin transfers are extremely rare.) Water users with high losses due to evaporation may want to consider the use of wastewater plant effluent as a means of avoiding withdrawal regulation under the Water Management Act.

#### Determination of Impact on Other Users

The DEP is also required to determine if the withdrawal will have an unacceptable impact on other users or on the environment. Permit applicants are asked to provide information regarding potential impacts to assist in the DEP's deliberations.

#### Water Withdrawal Permit Application Process

Permit applications are accepted on an annual basis during the months of February or August (see Table 5-3). Two copies and the applicable fee are to be sent to the DEP and one to the local water resource management official in the municipality in which the withdrawal is proposed. After the filing date, applicants have six months to complete the public notice and MEPA requirements. In addition, this six-month period is available to provide information required by the DEP for action on an application. All requirements must be fulfilled by the completion date (see Table 5-3) unless certain special circumstances apply. The DEP then has between 30 days and nine months to rule on complete applications.

The DEP will make appropriate application forms available to interested parties as the regulations become effective by basin. It is important to note that there is no limit upon the withdrawal of water before the permit application process begins in a particular river basin. The withdrawer should be aware, however, that an application for a permit must be made by the effective date for the relevant basin. The following considerations should be made in preparation for the permit process to minimize delays:

- Become familiar with the permit requirements and begin collecting the necessary data.
- Incorporate water conservation features into the project design.

- Consider the availability of water in the river basin and the proximity of other withdrawers during site selection.
- If already withdrawing, maintain accurate water withdrawal records and if necessary, install new meters to document the new demand proposed in the application.

#### 5.2.3.3.2 Cross Connection Permit

The DWS is also responsible for the regulation of cross connections. A cross connection is a connection between a distribution pipe supplying potable water and systems or equipment containing water or other substances of questionable or unknown quality.

Cogeneration facilities that require connections to a public water supply must protect against potential health hazards associated with backflow. Backflow may occur either through back pressure or back siphonage.

The DEP has promulgated regulations for the protection of public water supplies and their consumers from cross connection contamination. Section 22 of the Drinking Water Regulations of Massachusetts (310 C.M.R. Part 22.22) establishes the requirements for installation of approved backflow prevention devices throughout public water supply distribution systems. These regulations provide for the location and type of protective device; approval and permit of cross connection installations; inspection and testing of devices; and the responsibility of owners, water suppliers and plumbing inspectors.

Owners of a cross connection installation bear the responsibility for submitting the application and obtaining all necessary permits and approvals for installation and maintenance of backflow prevention devices, inspections and the maintenance of complete records of all plans, and data sheets pertaining to such a facility.

#### 5.2.3.3.3 Safe Drinking Water Regulations

Any facility that provides its own potable water to an average of at least 25 individuals (including employees) daily, at least 60 days of the year, is considered to be a public water system and thus must comply with the Safe Drinking Water regulations administered by DWS at 310 C.M.R. Part 22.00. Preliminary and final plans for the development of a water supply system must be approved by the regional DEP office and must be submitted at least 60 days prior to the date on which action by DEP is desired.

#### 5.2.3.4 Division of Wetlands and Waterways Regulation

The Division of Wetlands and Waterways Regulation is responsible for protecting the Commonwealth's inland and coastal wetlands, tidelands, floodplains, rivers, streams and ponds.

The Division is also responsible for administering Chapter 91 of the Massachusetts General Laws, regulating the construction of structures on tidelands and former (filled) tidelands, great ponds, navigable rivers and other waterways. By enforcing this law, the Division protects the public's right to access the State's waterways, and allows the Division to regulate development activities within these environmentally sensitive areas. Regulations protecting wetlands are outlined in 310 C.M.R. Part 10.00. Regulations protecting waterways, 310 C.M.R. Part 9.00, are being revised and will be issued by the end of 1989.

##### 5.2.3.4.1 Order of Conditions

Any developer proposing work in a regulated wetland resource area must receive an Order of Conditions from the local Conservation Commission. DEP involvement begins with appeals from Conservation Commission decisions.

#### The Wetlands Protection Act

The Wetlands Protection Act (M.G.L. c.131, § 40) is administered by local conservation commissions. The Act recognizes that wetland resources are important with respect to the following interests:

- Protection of public and private water supply;
- Protection of groundwater supply;
- Flood control;
- Storm damage prevention;
- Prevention of pollution;
- Protection of land containing shellfish;
- Protection of fisheries; and
- Protection of wildlife habitat.



Except for a few activities exempt from the regulations, the Wetlands Protection Act prohibits the dredging, filling or altering of wetlands without the issuance of an Order of Conditions from the local Conservation Commission. To obtain an Order of Conditions, the developer must submit an application (Notice of Intent) to do work in a regulated area. This is followed by a review of the individual project to determine its impact, if any, on a wetland resource area. Table 5-4 outlines the application and review process for obtaining an Order of Conditions.

There are a number of thresholds established in the regulations for working in coastal as well as inland wetland resources. The developer is advised to refer to 310 C.M.R. Part 10.00 for the specific identification of thresholds and regulatory requirements.

### Variances

Requests for variance from the regulations must follow the full permitting process including denials from the local Conservation Commission and the regional office of the DEP. A variance may be granted at the adjudicatory hearing level. Variances are only granted under extremely rare and unique circumstances.

A variance may be granted if:

- There are no reasonable conditions or alternatives that would allow the project to proceed in compliance with the regulation(s);
- Mitigating measures are proposed that will allow the project to be conditioned so as to contribute to the protection of the interests identified in the Act; and
- The variance is necessary to accommodate an overriding community, regional, state, or national public interest; or it is necessary to avoid an Order that so restricts the use of property as to constitute an unconstitutional taking without compensation.

Following review by the local Conservation Commission and DEP regional office, a variance letter must be filed with the DEP Boston office. The request should include, at a minimum, thorough documentation of why or how each of the above conditions are met. The variance can be filed directly with the DEP Boston office if the work will be undertaken on land within the boundaries of more than one city or town.

TABLE 5-4  
WETLANDS PROTECTION PROGRAM PROCESS

- If unsure as to whether an area is subject to the Wetlands Protection Act, a proponent may submit a Request for Determination of Applicability (Form 1) to the local Conservation Commission.
- Within 21 days after receipt of Form 1, the local Conservation Commission must hold a public hearing and issue a Determination of Applicability (Form 2). Notification of a public meeting at which the determination will be made, must be published in the local newspaper, the local Board of Health and Planning Board. A "positive" determination means a Notice of Intent is required. No such filing will be needed if a negative determination is made.
- File a Notice of Intent (Form 3) or an Abbreviated Notice of Intent (Form 4) with the local Conservation Commission. A Form 3 requires: (1) identification of the wetland resource area on a plan; (2) proof that the proposed activity is designed to meet the performance standards of the regulations; (3) presentation of detailed documents, plans and calculations that allow the Conservation Commission to determine if the project can be conditioned to protect the interests of the Wetlands Protection Act.
- DEP regional office assigns a file number to the case when a complete Notice of Intent is received, and forwards the number to the applicant and Conservation Commission.
- Within 21 days, the Conservation Commission is required to hold a public hearing. At least five days advance notice of the hearing must be given in a local newspaper.
- Within 21 days after the public hearing is closed, the Commission issues an Order of Conditions, Form 5, if the Commission finds that the performance standards have been met. A denial may be issued if the Commission finds that the performance standards conditions have not been met.
- The applicant must wait ten working days after an Order of Conditions is issued before work can begin. This provides for parties who object to appeal directly to DEP. The applicant may not go ahead with the work until the appeal period has elapsed or a Superseding Order has been issued by DEP. (Regulations pertaining to the Appeals process can be found in 310 C.M.R. Part 10.05(7))
- The applicant must record a copy of the Order at the Registry of Deeds for the county in which the land is located.
- Assuming that there are no appeals, the applicant has three years to finish the work. An Order may be extended upon written request to the issuing authority 30 days prior to its expiration.
- Upon completion of a project, the applicant must obtain a Certificate of Compliance from the agency that issued the Order and must record it in the Registry of Deeds.



#### 5.2.3.4.2 Chapter 91 License

Chapter 91 of the Massachusetts General Laws regulates the construction and use of structures on tidelands (existing and formerly filled), great ponds and certain rivers and streams. Within this area, all new structures as well as changes in use and structural alterations of existing structures must be licensed. The intent of this program is to protect the public's interests in said waterways, including those of navigation, access, and public health, safety and welfare.

Each individual project is reviewed to determine its impact on the public interests. Unlike the Wetlands Protection Act, Chapter 91 licenses are issued directly through DEP and not through local Conservation Commissions. DEP does, however, consider comments from the local communities in reviewing Chapter 91 license applications.

#### Coastal Areas Subject to Chapter 91 Regulations

In tidelands, DEP jurisdiction extends seaward from the historic mean high water mark. A distinction is made between "private tidelands" (those that extend from the mean high water to extreme low water or the 100 rod line (1650 feet) whichever is less) and "Commonwealth tidelands" (those lands seaward of the extreme low water mark or the 100 rod line, whichever is farther landward).

A distinction is also made between water-dependent uses (those which require direct access to, or location in, marine or tidal waters) and non-water dependent uses. For any water-dependent project on Commonwealth tidelands and all non-water dependent projects, public benefits must outweigh any public detriments. Water-dependent projects on private tidelands must not interfere with the public's right of fishing, fowling and navigation.

#### Inland Areas Subject to Chapter 91 Regulations

Inland areas subject to Chapter 91 regulations include: 1) great ponds; 2) portions of the Merrimack and Connecticut Rivers, including a portion of the Westfield River; and 3) certain other rivers and streams where public funds have been expended.

Tidal portions of rivers and streams are subject to all of the public rights in tidelands. The non-tidal portions where they are generally in private ownership, only the public right to navigation is protected.



## Chapter 91 License Application Process

The Chapter 91 license application is submitted to DEP's Division of Wetlands and Waterways Regulation. The application must include information concerning:

- Project description;
- Dredging purpose and methodology (if applicable);
- Municipal zoning certification;
- Municipal Planning Board notification;
- Mylar plans containing the site information specified in 310 C.M.R. Part 9.00 (under certain conditions, preliminary plans may be submitted with the application);
- Water quality certification or NPDES permit submission (if applicable); and
- A copy of the Order of Conditions or Notice of Intent (if an Order of Conditions has not yet been received).

An overview of the Chapter 91 licensing and review process is presented in Table 5-5.

### 5.2.3.5 Division of Solid Waste Management

The Division of Solid Waste Management is charged with securing the safe and efficient management of the Commonwealth's solid waste stream. The Solid Waste Management Act (M.G.L. c.111 § 150A) regulates the handling and disposal of solid waste in Massachusetts.

Facilities that use refuse, wastewood, or other solid wastes as fuel for generating power and thermal energy may require permitting as solid waste management facilities pursuant to the Solid Waste Management Act. Two procedures are involved: 1) a site assignment from the local Board of Health and 2) an operating permit from the Division of Solid Waste Management.

TABLE 5-5  
CHAPTER 91 LICENSING AND REVIEW PROCESS

- Applicant submits completed application form with plan of work stamped and signed by a Professional Engineer (PE) or land surveyor registered in Massachusetts.
- Applicant obtains an Order of Conditions pursuant to the Wetlands Protection Act. If the project is in private tidelands, certification is required from the municipal clerk indicating compliance with all local zoning ordinances and bylaws. A copy of the application should be submitted to the local Planning Board.
- Applicant receives a "Notice of Waterways Licenses Application" from DEP. This is a public notice and must be published in a local newspaper by the applicant. There is a 30-day comment period following publication.
- DEP notifies state and local officials and the Conservation Commission that a license application has been received. There is a 45-day comment period following notification of municipal officials which usually runs concurrently with the 30-day comment period mentioned above.
- DEP determines if the proposed use is water-dependent (e.g., requires direct access to a location in marine or tidal waters) or non water-dependent. If the project proposes a non water-dependent use, a public hearing must be held in the affected city or town.
- For all non-water-dependent projects and water-dependent projects on Commonwealth tidelands, DEP review includes determination that the project has: (1) a proper public purpose; (2) provides greater public benefit than public detriment to the rights of the public in tidelands; and (3) is consistent with Massachusetts Coastal Zone Management (CZM) Policies.
- If the project is located in Commonwealth tidelands, it must be approved by the Governor. DEP arranges for gubernatorial review and approval.
- Within 60 days of receipt, the applicant must record the Chapter 91 license along with the approved plan at the appropriate county Registry of Deeds. Work may not begin until the license and plan have been recorded and DEP receives notification of said recording.
- The project must be completed within five years unless otherwise stated in the license or permit.
- Within six months after project completion, the applicant must notify DEP and obtain a Certificate of Compliance. The request for a Certificate must be accompanied by a statement from a registered PE or registered land surveyor that the project was completed according to licensed plans.

#### 5.2.3.5.1 Site Assignment

Under the statute, any facility handling or disposing of solid wastes, including combustion facilities, requires a valid site assignment from the local Board of Health. Under the site assignment regulations, 310 C.M.R. Part 16.00, a project proponent simultaneously files an application with the local Board of Health and the DEP. DEP has 21 days from receipt of the application to determine whether it is complete. A complete application requires certification of prior compliance with the MEPA. A complete application also requires extensive data concerning the site, impacts on wetlands and water resources, impacts on public health, proximity to sources of drinking water, and consistency of the proposed facility with the state's solid waste management plans.

#### Site Assignment Application and Review Process

If DEP determines that the application is complete, it then has 60 days to determine whether the proposed facility meets the siting criteria specified in the site assignment regulation. The regulation specifies both general criteria for all solid waste management facilities, and specific criteria for particular types of facilities, such as combustion facilities. Public notice of the submission of a complete application is required, and members of the public may comment. The Massachusetts Department of Public Health (DPH) also reviews the site application, and provides a report on the public health impacts of the proposed facility, if requested by the local Board of Health. A decision by the DEP that the proposed site is unsuitable for the proposed facility ends the site assignment review, subject to judicial review.

If DEP determines that the proposed site is suitable for the proposed facility, the local Board of Health is required to commence a public hearing within 30 days, to determine if the proposed facility poses a threat to public health, safety, and the environment. The applicant must pay a technical fee to the local Board of Health, at levels specified in the regulation, to enable the Board of Health to retain experts to review the application. The applicant must also pay the costs of the public hearing, including the cost of retaining a hearing officer to convene the public hearing.

The local Board of Health must issue its decision within 45 days of commencing the public hearing. Its decision must be limited to considering the suitability of the site under the siting criteria set forth in the regulation. Its decision may be appealed. Abutters and other interested parties may participate in the hearing and appeal.



The site assignment procedures were established in 1988 pursuant to statutory amendments enacted in 1987. To date, no combustion facility has yet commenced the site assignment process.

#### 5.2.3.5.2 Operating Permit

A solid waste management facility must also obtain an operating permit from DEP. DEP is preparing regulations to define operating standards for combustion facilities. The Division of Solid Waste Management has issued an interim policy (SWM-13-6/89) on the procedures for the issuance of solid waste management facility permits. Regulations implementing this policy may be forthcoming.

The interim policy provides that a project proponent must submit an application with detailed information on the proposed facility, including a site plan, a comprehensive recycling plan, a design plan, a public health report, certification that the proposed facility has a valid site assignment, certification that the proposed facility has complied with the MEPA requirements, and certification that the proposed facility will be in compliance with wetlands requirements.

Under the policy, DEP will review a submitted application for completeness, and notify the applicant in writing within 60 days whether the application is complete. Within 120 days of the notice that an application is complete, DEP will issue a draft permit for public comment. DEP may hold a public hearing on the draft permit. After the close of the public comment period, or following any public hearing, DEP will issue a final permit decision and a fact sheet explaining its decision.

#### 5.2.3.6 Division of Hazardous Waste

The Division of Hazardous Waste, under DEP's Bureau of Waste Prevention, is charged with protecting public health, safety and welfare and the environment by regulating the generation, storage and handling of hazardous waste in Massachusetts.

DEP Hazardous Waste regulations are found in 310 C.M.R. Part 30.00, and are promulgated under the authority granted by M.G.L. c.21c § 4 and 6, M.G.L. c.211 § 6 and by Section 47 of c.548 of the Acts of 1987.

According to Federal and state regulations, fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels is not considered hazardous, and thus are not subject to Hazardous Waste Regulations (310 C.M.R. Part 30.104(9)).

#### 5.2.3.6.1 Spill Prevention Control and Countermeasure Plan

The Division of Hazardous Waste is also responsible for approval of Spill Prevention Control and Countermeasure Plans (SPCC) required for the construction and operation of oil storage tanks. SPCC plans must meet Federal regulations on Oil Pollution Prevention (40 C.F.R. Part 112.00).

#### 5.2.4 Office of Coastal Zone Management (CZM)

The CZM program derives its regulatory authority from the Federal Coastal Zone Management Act of 1972. The Act empowers all states with an approved coastal zone management plan to review Federal funding and permitting of significant activity proposed within a coastal zone, for consistency with that state's coastal zone plan. State regulations for CZM's consistency review are found at 301 C.M.R. Part 21.00. The basic purpose of the CZM program is to ensure that the environmental resources in coastal areas are protected from proposed activities and development.

##### 5.2.4.1 Federal Consistency Certificate

All applications for a CZM Federal consistency certificate are reviewed by the CZM office, and are also subject to public comment. The CZM Federal consistency certificate must be issued before Federal agencies (e.g., COE, EPA, Coast Guard) can issue any permits to projects that affect land or water uses in the Coastal Zone of Massachusetts.

In order to be subject to a CZM consistency review, a project must meet three criteria:

- Be located within, or affect, the Massachusetts Coastal Zone as defined in CZM's publication, Chapter 5 Massachusetts Coastal Regions and Atlas of Resources.
- Involve a Federal action such as funding, permitting, or licensing.
- Exceed certain "thresholds" which trigger formal review by MEPA. Examples of MEPA thresholds pertaining to dredging or navigation-improvement projects include, but are not limited to:
  - Dredging or disposing of more than 10,000 cubic yards of material.

- Filling, dredging, constructing or rip-rapping or otherwise directly altering more than 500 feet of waterway bank.

#### Certification of Consistency Application and Review Process

Upon determination that a project is subject to CZM consistency review, the applicant must send materials to CZM, including a copy of applications for a Federal license and permits, a copy of the final review decision on project issued by MEPA, supporting project documentation (e.g., site plans, maps, test results), and a "Certification of Federal Consistency." This is usually a two to three page document prepared by the proponent certifying the project's consistency with relevant CZM policies, citing relevant CZM policies along with a brief description as to how the project is consistent with them.

Once CZM receives the application material, a Notice of Review is published in the Environmental Monitor and CZM begins a formal review during the required 21-day comment period. For relatively simple projects, CZM review may be concluded shortly after close of the public comment period. More complex projects may require additional documentation or test data. CZM review may take anywhere from 21 days to 6 months from receipt of the required materials.

At the end of the review period, CZM will issue either a "concurrence with" or "objection to" the applicant's certification of consistency. If CZM objects, the project may not proceed until the objection is removed by project modification or through an appeals procedure.

#### 5.2.4.2 EFSC Review

CZM review would also be a major issue in the EFSC review for any site subject to EFSC approval in the coastal zone. The EFSC is responsible for implementing CZM policies for energy facilities that require EFSC approval, as described in Section 5.2.1. Any proposed site within the coastal zone must be compared to a viable site outside the coastal zone. The CZM also has the authority to intervene in the adjudicatory proceedings conducted by the EFSC.

If the Siting Council issues a Certificate of Environmental Impact and Public Need pursuant to a petition from the applicant, this would supersede any CZM concurrence requirement.



### 5.2.5 Department of Public Safety (DPS)

Projects that include storage tanks for oil or other inflammable fluid such as ammonia require additional permits. Local fire department approval under the State Division of Fire Prevention, and Building Department permits are required prior to submitting an application for state approval for inflammable fluid storage tanks. The submission of plans and specifications for the storage tank are required as part of the state application.

Oil storage tank facilities greater than 10,000 gallons require approvals from both the Commissioner of Public Safety as well as the Division of Inspection Engineering Section of the DPS. Below-ground storage tanks or above-ground tanks that are less than 10,000 gallons are only required to receive approval from the local fire authorities, under the State Division of Fire Prevention.

A formal pre-construction permit application for tanks greater than 10,000 gallons must be filed with the Division of Inspection Engineering Section. The application must include a local building permit along with a plot plan, and engineering plans for the foundation, dike and tank. All documents must be stamped by a Professional Engineer registered in Massachusetts. The permit application also requires submittal of an ENF.

Regulations on oil storage facilities are in M.G.L. c.148 §§ 9, 13, and 37; and 527 C.M.R. Parts 9.00, and 12.00.

### 5.2.6 Executive Office of Transportation and Construction (EOTC)

The Executive Office of Transportation and Construction (EOTC) reviews projects that may affect transportation via the MEPA process. EOTC receives a copy of a submitted ENF and may comment as part of the MEPA review process.

The Department of Public Works (DPW), under authority of M.G.L. c.81 § 21 and EOTC, issues permits relative to permits for new street approaches and driveways (curb cuts).

#### 5.2.6.1 Traffic Impact Assessments

EOTC and EOEA have jointly developed guidelines for submission of traffic impact assessments as part of an EIR. Generally, EOTC seeks the following information when reviewing traffic impact studies:

- Project introduction, including proposal description, locus map, site plan and zoning map.
- Assessment of existing conditions, including existing roadway network, traffic volumes, pedestrian counts, accident history, capacity and level of service (LOS) analysis.
- Trip generation and alternative trip generation as a result of the proposed project.
- Documentation of trip distribution.
- Future conditions for the "no-build" and "build" scenarios.
- Mitigation measures for additional traffic generation.
- Associated appendices relative to traffic counts, layout plans, capacity, and LOS analysis, etc.

EOTC also reviews traffic impacts during the construction phase of a project.

#### 5.2.6.2 Fuel Transportation

For cogeneration and IPP facilities, EOTC reviews the proposed methods of fuel transportation to the site. For facilities located near a railroad line, the proponents are advised to consider the potential for use of rail transportation of solid or liquid fuels, to reduce the number of trips to the site made by trucks.

#### 5.2.6.3 Construction On Former Railroad Property

EOTC also reviews projects that are proposed to be constructed on or near railroad property. A permit is required for construction on railroad property or land formerly used as a railroad right-of-way, pursuant to M.G.L. c.40, § 54A. No permit can be issued by a city or town for construction on such property without consent from EOTC.

#### 5.2.6.4 Approaches to New Streets

Applications for the entrance of new streets onto a state highway layout require evidence of acceptance by a local planning board or other authorized city or town official. Applications must include a profile of the entire length of said streets, a plan of proposed drainage, with applicable easements shown. The plan should show the intersection of the applicant's property lines with the highway layout.

Letters from abutters indicating approval of street or driveways that project in front of their property should be included in the application.

#### 5.2.6.5 Driveways (Curb Cuts)

Applications for exits and entrances to state highway driveways must include complete details on the property in question, including the location of property lines, all existing driveways, and all buildings, existing or proposed. The Highway Engineer from the appropriate District DPW office should be consulted for further application requirements.

#### 5.2.7 Massachusetts Historical Commission (MHC)

The MHC was established to protect the public's interest in preserving historic and archaeological properties. (M.G.L. c.9 § 26-27c; Amended Chapter 254 of the Acts of 1988 effective December 15, 1988.) Many projects, including those that require review under MEPA, are subject to review by the MHC. Consultation with the MHC is recommended prior to submission of an ENF for a determination of potential project impact on an area of historic or archaeological significance. If the MHC determines an adverse affect resulting from a proposed project may occur, then the MHC and the proponent will consult to discuss means to eliminate, minimize or mitigate adverse effects. Regulations are outlined in 950 C.M.R. Part 71.00.

Power facilities that are regulated by FERC are subject to § 106 of the National Historic Preservation Act (36 C.F.R. Part 800). The MHC provides comments on FERC-regulated facilities under this regulation. The MHC recommends that the state and Federal historic preservation reviews be conducted concurrently to facilitate a timely and efficient review.



### 5.2.8 Massachusetts Natural Heritage Programs (MNHP)

The MNHP, a division of EOEA's Department of Fisheries, Wildlife and Environmental Law Enforcement, oversees, via the MEPA process, preservation of rare or endangered species of wildlife or vegetation. Consultation with the MNHP is advised during the preparation of an ENF, to indicate whether a project may affect rare or endangered vegetation or wildlife.

### 5.2.9 Massachusetts Department of Public Utilities (DPU)

In addition to its authority to approve power sales contracts as described in Section 4.5, the DPU has jurisdiction over the siting and operation of natural gas pipelines. Any entity which proposes to construct and operate a natural gas pipeline wholly within Massachusetts must petition the DPU in accordance with M.G.L. c.164, § 758. The DPU will grant approval if it determines that the pipeline is necessary, will serve the public convenience and is consistent with the public interest. If the entity has obtained a certificate of public convenience and necessity with respect to the pipeline issued under Chapter 15B of the U.S. Code (the Natural Gas Act), the entity need only file a certified copy of the certificate with the DPU rather than petition for approval.

A pipeline must also comply with safety regulations issued by the DPU and contained at 220 C.M.R. § 100 *et seq.*

## 5.3 Federal Permits and Approvals

### 5.3.1 National Environmental Policy Act (NEPA)

The NEPA was enacted in 1970 to assure that the significant environmental impacts of major Federal actions are taken into consideration before, rather than after, irretrievable commitments are made. The requirements of NEPA must be satisfied by the individual Federal agencies, with oversight by the Council on Environmental Quality (CEQ), a Presidential agency.

Under NEPA, each Federal agency which plans to take action that may impact the environment, must consider whether the action may constitute a "major Federal action" with significant environmental impacts. If so, an Environmental Impact Statement (EIS) must be prepared by the agency, first in draft, and then in final form, with opportunity for public comment.

Most agencies, by policy or regulation, have classified large areas of their jurisdiction as unlikely to have significant environmental impacts, and within those areas of jurisdiction, the agencies do not conduct any specific review before taking action. Otherwise, the agency is required to conduct an Environmental Assessment (EA) to determine whether a proposed action, such as granting a discharge permit, is likely to have significant impact on the environment. An EA may result in a Finding of No Significant Impact (FONSI), which ends NEPA's requirements. If the EA finds that a significant impact is likely, then the agency must prepare a Draft and a Final EIS. There are public comment periods both for EAs and Draft and Final EISs.

For cogeneration and IPP facilities, the most likely triggers for preparation of an EA and an EIS under NEPA include any Federal action to issue a permit for water discharges, air emissions, or filling waterways. Typically, a Federal agency granting such permits is at least required to conduct an EA and issue a FONSI, and for a major project, might determine that an EIS is required. The agencies expect to rely heavily on the proponent's environmental surveys for preparing these documents.

### 5.3.2 U.S. Department of Energy (DOE) Fuel Use Act Exemption

The Fuel Use Act (FUA) of 1978 prohibits the use of oil or natural gas in any new electric power plant over 100 MMBtu/hr heat input. Facilities proposing to burn either oil or natural gas must seek an FUA exemption, as determined by the U.S. DOE. Prior to 1987, exemptions were secured through an application and review process by the Economic Regulatory Administration arm of the Department of Energy. The Act was amended in May, 1987, enabling facilities to self-certify that they are alternate fuel capable or can be made alternate fuel-capable.

Cogeneration facilities may self-certify by submitting the following information to the DOE, Office of Fuels Programs:

- A physical description of the facility;
- Name of facility owner and location;
- To whom the electricity will be sold;
- To whom the steam will be sold; and
- Signed certification by a company official verifying the above information.

A developer may choose to receive a formal exemption from the Office of Fuels Programs in which case an Exemption Petition needs to be filed. In most cases, self-certification for FUA exemption will suffice.

### 5.3.3 U.S. Army Corps of Engineers (COE)

#### 5.3.3.1 Section 10 Permit - Construction in Navigable Waters

The Army Corps of Engineers (COE), under the authority of Section 10 of the Rivers and Harbors Act of 1899, requires a permit for the construction of any structure in or over any navigable waters of the United States. This permit applies to the construction of intake and discharge structures in such navigable waters. It is expected that such structures may be required for either a water supply intake and/or a wastewater discharge system.

#### 5.3.3.2 Section 404 Permit - Dredging or Filling

Section 404 of the Clean Water Act prohibits the discharge of dredged or fill materials into waters of the United States without a Federal-level permit from the COE. Waters of the United States are very broadly defined by the COE to include wetlands, as well as actual water bodies and waterways. Whenever fill is to be placed in a wetland, jurisdiction is triggered for this permit.

#### EPA Veto Authority

The EPA retains the right to veto approval of a Section 404 permit if it determines that there will be "significant" impact on waterway or wetlands resource area. Only one such veto has been issued in Massachusetts to date.

#### 5.3.3.3 COE Permit Application and Review

Application materials required for these permits include drawings detailing the location and extent of work proposed in wetlands and waterways, and a description of mitigation proposed.

The permit review process is based on a determination that a project balances conservation, aesthetics, water quality and other environmental issues with economic considerations and other considerations of public welfare. Public notices are issued once a Notice of Intent or permit application is filed. The COE reviews comments and may request additional information. A public hearing may then be held with a decision to follow. This process may take six months or more.



#### 5.3.3.4 Nationwide Permits

Certain types of activities qualify as "nationwide" permits under the COE program. These nationwide permits have certain conditions that must be met in order to be approved. If, upon review of project information, COE concurs that the work can be permitted under the nationwide designation and that all applicable conditions have been met, the permit may be issued with no public comment period necessary. Massachusetts, however, does not automatically recognize each of these authorized activities and requires the issuance of a Water Quality Certification (see Section 5.2.3.2) by DEP's DWPC, prior to granting approval of a nationwide permit application.

#### 5.3.4 U.S. EPA NPDES Permit

The U.S. EPA, under the authority of the Federal Water Pollution Control Act, administers the NPDES permitting program for point source wastewater discharges into navigable waters or their tributaries. EPA Region I and the DEP have signed a Memorandum of Understanding whereby surface discharge permits are issued jointly by both agencies, with both agencies conducting technical reviews (see Section 5.2.3.2.1)

The types of wastewater discharges that are reviewed under the NPDES program include closed cycle cooling tower blowdown, plus miscellaneous low-volume wastes such as boiler blowdown, floor drainage, and demineralizer regenerant wastes. Stormwater runoff is also evaluated under the NPDES program.

The EPA has regulatory authority under Clean Water Act §§ 301, 304 and 403. The Act requires the Administrator of the EPA to establish, for existing facilities, effluent limitations which set forth the degree of reduction attainable through the application of the best practicable control technology currently available, best conventional pollutant control technology, and best available technology economically achievable (Sections 301 and 304). Technology guidelines, based on the requirements specified in the Clean Water Act, have not been promulgated for stormwater effluents. Therefore, technology-based requirements must be determined by Best Professional Judgment (BPJ) (Section 403(a)(1)). The Act also requires EPA to obtain state certification that water quality standards will be satisfied. Regulations governing state certification are set forth in 40 C.F.R. 124.53 and 124.55.

Under Section 301 (b)(1)(C) of the Clean Water Act, discharges are subject to effluent limitations based on water quality standards. The Massachusetts Surface Water Quality Standards, 314 C.M.R. Part 4.03 (4), include a narrative statement that prohibits the discharge of any pollutant or combination of pollutants in quantities that would be toxic or injurious to human health or aquatic life. The Commonwealth is determining criteria for specific toxic pollutants. According to 314 C.M.R. Part 4.30 (2), EPA water quality criteria are to be used to interpret the narrative standard in 314 C.M.R. Part 4.03 (4).

Applications for an NPDES permit may be obtained from the EPA regional office. Although EPA will circulate the application to the DEP, it is recommended that the applicant send a copy of the original application to DEP directly.

#### 5.3.5 Federal Aviation Administration (FAA)

FAA regulations require that a notification form be filed for all structures which could be considered an obstruction to aircraft. FAA Notice of Proposed Construction is required for any proposed structure more than 200 feet above ground level for projects 20,000 feet or more from the nearest airport runway, with more restrictive requirements closer to airports. FAA review results in a determination of whether or not the proposed structure would be a hazard to air navigation, although no permit is issued. FAA also can require special markings or warning devices on a facility to ensure public aviation safety.

#### 5.3.6 Federal Emergency Management Agency (FEMA)

The FEMA has adopted regulations pursuant to the Flood Disaster Protection Act of 1973 that have resulted in identification of "special flood hazard areas." While FEMA does not conduct any specific pre-construction reviews for projects, projects located in special flood hazard areas are subject to Federal restrictions and requirements concerning loans and insurance. Special flood hazard areas, as designated by FEMA, are those areas that are within the 100-year flood plain.

#### 5.4 Local Permits and Approvals

In Massachusetts, local approvals for power generation projects of this nature typically arise in four areas: 1) zoning and/or site plan review; 2) construction in or near floodplains or wetlands; 3) sewer connection and pre-treatment; and 4) available water supply.

Typically, local permitting does not require significant new technical analysis beyond that required for Federal and state permitting efforts.

Local agencies which should be contacted at the early stages of a project include, but are not limited to:

<u>Agency</u>	<u>Issue</u>
Conservation Commission	Wetlands Approval
Selectmen/Planning Board	Site Plan Approval
Zoning Board	Zoning Relief
Water Department	Sewer Extension/Connection
Conservation Commission	Wetlands Approval
Building Inspector	Oil Tank Storage Approval Stack Height Variance
Fire Inspector	Oil Tank Storage Approval Storage of Ammonia
Historical Commission	Site with Historical Significance
Board of Health	Site Assignment (if solid waste facility)
Department of Public Works	Curb Cuts

Local permitting is variable due to the diverse and complex nature of local requirements and provisions. While a full explanation of local permits and licenses goes beyond the scope of this Guidebook, the developer is advised to contact the local authorities at the earliest stages of a project to ensure that local issues are adequately addressed. Abutters to a proposed facility should also be consulted at the earliest possible time. Failure to obtain local approvals may result in project delays or may ultimately hinder project completion.

## 5.5 Scheduling

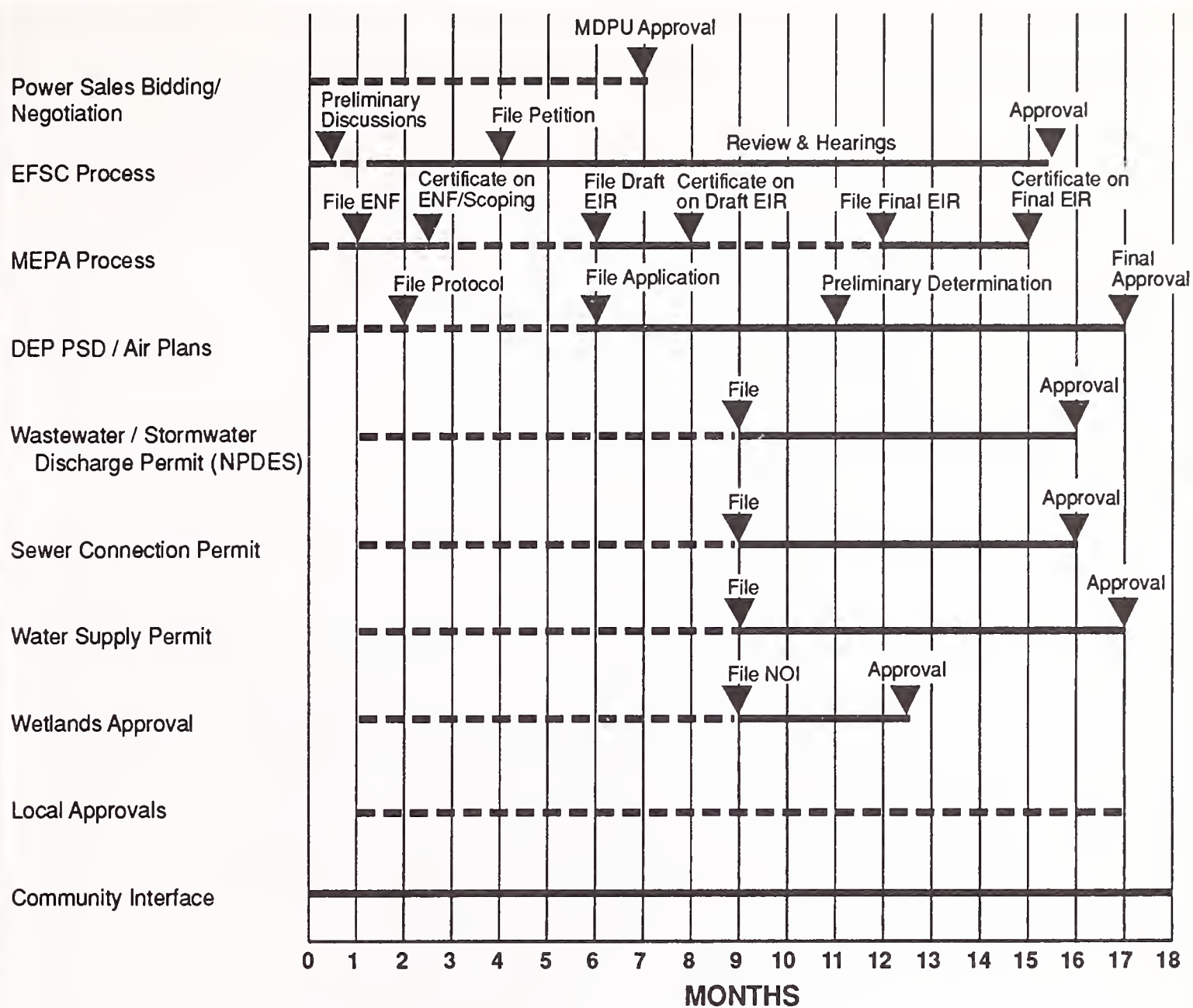
The time line for the permitting process for any project will vary, depending on the complexity of the project, environmental issues and amount of local opposition or intervention.



The permitting process may take anywhere from 8 to 36 months. A fairly simple project -- one that does not require EFSC review, or trigger major environmental review for air quality and water discharge and also receives local approval -- may be permitted in as little as 8 to 12 months.

Conversely, a complex project that requires full regulatory review from EFSC, MEPA, full Air Plans and PSD review and an array of state and local environmental approvals, may take up to 36 months to reach final approval. Figure 5-3 offers a sample time frame for a "moderately" complex project requiring EFSC approval, full MEPA review, PSD and Air Plans Review and a number of other permits related to water use, wastewater discharge and local approval.

The developer is advised to allow sufficient time for potential permitting delays when establishing a timetable for a project.



LEGEND	
<b>EFSC</b> = Energy Facilities Siting Council	<b>PSD</b> = Prevention of Significant Deterioration
<b>MEPA</b> = Massachusetts Environmental Policy Act	<b>NPDES</b> = National Pollution Discharge Elimination System
<b>DEP</b> = Department of Environmental Protection	<b>EIR</b> = Environmental Impact Report
<b>MDPU</b> = Massachusetts Department of Public Utilities	<b>NOI</b> = Notice of Intent
--- Application Preparation	— Agency Review

**FIGURE 5-3**  
**MASSACHUSETTS CONCEPTUAL LICENSING SCHEDULE**









## 6.0 CASE STUDIES

### 6.1 Introduction

To assist the developer in understanding the permitting process for a cogeneration facility in Massachusetts, three case studies are presented: a 300 MW coal-fired cogeneration facility, a 240 MW gas-fired combined cycle facility, and a 40 MW gas-fired combined cycle facility

These "generic" scenarios are intended to be used as illustrations of permitting requirements and should not be construed as a methodology for any particular project. They are intended to serve as examples of the types of permitting issues that may be triggered by project type, project size, type of fuel, site location, etc.

The developer is advised to explore all permitting requirements with the appropriate Federal, state and local authorities to determine which permits are necessary. A list of agency contacts are included in Appendix B to assist in this process.

### 6.2 Case 1: 300 MW Coal-Fired Facility

XYZ Company plans to build a 300 MW coal-fired circulating fluidized bed (CFB) topping cycle cogeneration facility, providing 120,000 pounds of steam per hour to a neighboring pulp and paper mill. The cogeneration facility will consist of three 100 MW turbines. It will be located on the Highflow River, a navigable river in the South Coastal River Basin in Fall River, Massachusetts. The area is designated as being within the Massachusetts Coastal Zone.

The fuel to be used will be two percent sulfur content coal. Sulfur dioxide emissions will be reduced by 90% through limestone injection to the CFB. The facility will include fabric filters for particulate control and boiler design for NO<sub>x</sub> control. Condenser cooling will be via wet cooling towers. The facility will be considered a "major source" for SO<sub>2</sub> and NO<sub>x</sub>, emitting greater than 250 tpy. The facility will also emit over 150 tpy VOCs.

The area is considered to be sparsely populated, with the closest residences located within 2500 feet from the proposed facility. The facility will have a 250-foot stack for emissions. The site plans also indicate that approximately 4,500 square feet of wetlands will be filled for the construction of this plant.

The facility will discharge one MGD of wastewater. Discussions with local authorities indicate that the municipal wastewater treatment facility is unable to handle this amount.

Transportation of coal will most likely be by rail, although transportation by barge is being investigated. Distillate oil will be used for start-up of the facility.



Recently, a large number of gas-fired cogeneration facilities have been proposed in Massachusetts. This is one of the first coal-fired facilities to be proposed in recent years.

XYZ is negotiating a long-term power sales agreement with the local utility to sell the electricity generated by the facility.

### Issues and Recommended Strategies for Case 1

- Qualifying Facility

XYZ meets the standards for a qualifying facility because: a) the steam output represents more than 5% of the total energy output of the facility, and b) no utility owns an equity interest in the facility. XYZ must either file a self-certification notice with FERC or request certification of QF status by FERC.

- Power Sales

The Massachusetts DPU must approve the power sales agreement negotiated by XYZ and the purchasing utility. The DPU may approve the agreement based on a determination that the price and other contract elements will be beneficial to the utility's ratepayers over the long run. Since the power sales contract was negotiated outside of the DPU's bidding process, XYZ will need to provide the DPU with additional supporting information including contract benefits, forecasts of power needs, and XYZ's ability to supply power in a reliable manner.

- Siting

Because the facility is greater than 100 MW, the XYZ must petition the EFSC for approval. During the project level review, XYZ will have to demonstrate that, in comparison to other alternatives, its project approach is the lowest cost option with the least environmental impact. To address these project level issues, the proponents of the facility have identified coal as the lowest cost fuel and believe that coal offers added diversity to the state's fuel mix. In addition, within the scope of its facility level review, the EFSC will judge whether the proposed site is better than the alternative site on the basis of cost, environmental impact and reliability.

XYZ considers CFB technology to be environmentally sound in that it minimizes environmental impacts by reducing SO<sub>2</sub> and NO<sub>x</sub>.

XYZ asserts that using recent electricity demand forecasts and utility supply plans, additional electricity is needed in Massachusetts and the New England Region. XYZ proposes that the facility will offer low-cost and reliable electricity to the New England Power Pool.

XYZ has also evaluated other potential sites for the facility and has determined the proposed location to be the most desirable, with access to necessary electrical transmission interconnections, an amenable host for steam production and minimal impact to the surrounding environment.

The EFSC will conduct a coastal zone analysis and will require that the proponent demonstrate that construction of the facility on an alternative site outside of a coastal zone is not a viable option.

- MEPA Process

The proponents are required to file an ENF and an EIR as the project is categorically included under the MEPA regulations. The categorical inclusions for this project are that: 1) it is a facility larger than 100 MW; and 2) the facility will emit pollutants in excess of 250 tpy. The Draft EIR must respond to those issues identified in the Scope issued by the Secretary of Environmental Affairs in response to the ENF. MEPA then requires a Final EIR in response to submission of the Draft EIR.

- Air Quality

The XYZ facility is considered a "major source" for SO<sub>2</sub>, NO<sub>x</sub>, and VOCs and will trigger PSD review, an Air Plans filing and non-attainment review.

With regard to boiler design for NO<sub>x</sub> control, there remains the issue whether DEP will view this as BACT (Best Available Control Technology). DEP may require add-on controls such as ammonia injection to further control NO<sub>x</sub> emissions.

Because the facility will emit greater than 100 tpy VOCs, XYZ should be prepared to purchase VOC offsets one for one from existing sources. This may cost XYZ company \$5,000 to \$10,000 per ton of VOC to be removed, potentially adding \$1 million annually in operating expenses to the cost of the project.

- Wastewater

Because the local municipal treatment plant does not have capacity to handle one MGD, an NPDES permit will be required for discharge to the Highflow River. The treatment and discharge of the XYZ facility wastewater will also require approval from the DWPC. As an alternative strategy, XYZ Company may also want to consider changing to air-cooled condensing to reduce the amount of wastewater from cooling tower blowdown and, therefore, be able to discharge into the municipal wastewater facility.

Additionally, COE permits will be required if water intake and/or discharge structures are required. Reducing wastewater through air-cooled condensers may also eliminate the need for permits from the COE since need for intake/discharge structures would be eliminated.

- Wetlands/Filled Tidelands

Because the facility is to be located in a coastal zone area, a Chapter 91 license is required. An Order of Conditions is required along with the Chapter 91 license. Additionally, an application for a Federal Consistency Certification must be filed with CZM, as the project would affect the Massachusetts coastal zone.

- Water Supply

The proposed facility will require five MGD per day of water. Under the Water Management Act, any facility located in the South Coastal River Basin requiring over 100,000 gpd must apply for a DEP permit as of August, 1990. DEP requires an assessment of the impact the proposed water withdrawal will have on other surface and groundwater resources. Water needs may be reduced through the use of dry cooling towers.



- Noise

If the facility chooses to use dry cooling towers to reduce water usage, there will be an increase in the amount of noise generated by the facility. Although the area is considered to be sparsely populated, residences are located within 2,500 feet and may be affected. Noise mitigation efforts will be needed to ensure that the increase in noise does not exceed the allowable 10 dBA increase over existing ambient levels.

- Ash Disposal

XYZ company plans to dispose of its ash by returning it, via rail, to the regional mine for reclamation.

A summary of the permits required for this facility is presented in Table 6-1.

**TABLE 6-1**  
**CASE 1: 300 MW COAL-FIRED FACILITY**  
**SUMMARY OF NECESSARY PERMITS AND APPROVALS**

Agency	Permit	Issue	Triggering Criteria
FERC	QF Certification	Certification as a Qualifying Facility	<ul style="list-style-type: none"> <li>- Meets ownership criteria (&lt;50% utility owned)</li> <li>- Meets operating standard (5% of total output is "useful" thermal)</li> </ul>
MDPU	Approval of Power Sales Contract	Sale of electricity to utility	<ul style="list-style-type: none"> <li>- Contract for sale of electricity</li> </ul>
EFSC	Approval to Construct	Siting	<ul style="list-style-type: none"> <li>- 100 MW or greater</li> </ul>
MEPA	Certification	Environmental Impact Assessment	Categorically included: <ul style="list-style-type: none"> <li>- Greater than 100 MW</li> <li>- Greater than 250 TPY emissions</li> </ul>
DEP Div. of Air Quality Control	PSD/Air Plans Approval to Construct a New Source	Air Quality	<ul style="list-style-type: none"> <li>- New "major source" of air contaminants</li> </ul>
DEP Div. of Water Pollution Control	Sewer Extension/Connection Permit	Wastewater discharge	<ul style="list-style-type: none"> <li>- Extension or connection to public sewer system</li> </ul>
	Water Quality Certification	Wastewater discharge	<ul style="list-style-type: none"> <li>- Discharge of surface water into State water resource area</li> </ul>
DEP Div. of Water Pollution Control/ EPA Region I	Surface Water Discharge Permit (NPDES Permit)	Wastewater discharge	<ul style="list-style-type: none"> <li>- Discharge of surface water into State water resource area</li> </ul>
Army COE	COE Section 404 Permit COE Section 10 Permit	Water intake/discharge Dredging/disposal of dredged materials	<ul style="list-style-type: none"> <li>- Construction of intake or discharge structures/filling of or dredging wetlands</li> </ul>
NEPA	Environmental Assessment/FONSI	Water intake/discharge	<ul style="list-style-type: none"> <li>- May be triggered by NPDES and/or COE permits</li> </ul>
DEP Div. of Water Pollution Control	Water Quality Certification	Water intake/discharge	<ul style="list-style-type: none"> <li>- Dredging, filling or construction of intake or discharge structure in surface waters</li> </ul>
DEP Div. of Water Supply	Chapter 21 G Permit	Water withdrawal	<ul style="list-style-type: none"> <li>- Withdrawal of 100,000 gpd or more</li> </ul>
DEP Div. of Wetlands and Waterways Regulation	Approval of Local Conservation Commission Order of Conditions	Wetlands Protection	<ul style="list-style-type: none"> <li>- Dredging, filling or altering Wetlands</li> </ul>
	Chapter 91 Waterways License	Tidelands	<ul style="list-style-type: none"> <li>- Construction of Structure in tidelands or on filled tidelands</li> </ul>
Dept. of Public Safety	Permit to Construct an Oil Storage Tank in Excess of 10,000 gallons	Storage Tank for Distillate Oil	<ul style="list-style-type: none"> <li>- Storage of distillate oil in excess of 10,000 gallons</li> </ul>
Local Conservation Commission	Order of Conditions	Wetlands Protection	<ul style="list-style-type: none"> <li>- Dredging, filling or altering wetlands</li> </ul>

**TABLE 6-1 (Continued)**

Agency	Permit	Issue	Triggering Criteria
Mass. Office of Coastal Zone Management (CZM)	Federal Consistency Certification	Location of energy facility in a coastal zone	<ul style="list-style-type: none"> <li>- Facility located in a Coastal Zone</li> <li>- Federal permit required</li> <li>- MEPA categorical inclusion</li> </ul>
Dept. of Energy Office of Fuels Programs	Fuel Use Act Exemption	Request exemption from Fuel Use Act prohibiting use of oil or natural gas in new facilities	<ul style="list-style-type: none"> <li>- Use of natural gas with oil backup</li> </ul>
Federal Aviation Administration	Stack Construction Notification	Stack Construction	<ul style="list-style-type: none"> <li>- Stack height greater than 200 feet</li> </ul>
Local Planning Board	Site Plan Approval	Siting	<ul style="list-style-type: none"> <li>- Proposed construction of electric generating facility</li> </ul>
Local Zoning Board	Zoning Relief	Zoning	<ul style="list-style-type: none"> <li>- Proposed construction of electric generating facility</li> </ul>
Local Building Inspector	Building Permit Approval	Building Inspection	<ul style="list-style-type: none"> <li>- Proposed construction of electric generating facility</li> </ul>
Local Fire Inspector	Permit to Construct Storage Tank for Inflammable Fluid	Oil Storage Tank	<ul style="list-style-type: none"> <li>- On-site storage of a flammable liquid</li> </ul>



### 6.3 Case 2: 240 MW Natural Gas-Fired Combined Cycle Facility

Apex Plastics Company plans to serve as a steam host for a 240 MW gas-fired combined cycle facility. This combustion turbine topping cycle cogeneration facility is to be built in Greenfield, Massachusetts. The facility will be fired by an interruptible supply of natural gas with distillate oil backup. No more than 90 days of oil backup will be allowed. Storage for approximately 1,000,000 gallons of distillate oil will be provided. The total annual electrical production is anticipated to be 1,913,184 MWh. Fuel consumption of the facility will be about 50 MCF/day.

The facility will provide 150,000 pounds of steam per hour to the host, a plastics manufacturer. State Utility Company is a 45% equity owner of the facility in conjunction with ABC Energy Company. Electricity will be sold to Good Electric Company, the local utility which has signed a long-term standard contract with ABC Energy.

The facility will be located in a rural area, approximately 16,000 feet from the nearest airport runway. The terrain is hilly and part of the surrounding terrain will be higher than the 250-foot stack of the proposed facility. The facility will be considered a major new source for air contaminants. A preliminary evaluation indicates that there are five other major sources within 15 miles of the proposed facility. Apex plans to retire two existing oil-fired boilers and thus proposes that there will be an overall reduction in air contaminants in the region.

Apex currently uses two MGD of water which originates from the Greenfield River and discharges back into the river. Through the use of process water recycling for cooling tower makeup, the cogeneration facility will not require additional water intake, and will disburse most of the water into the atmosphere, with the remaining discharge into the municipal sewage system. This will result in a net reduction of approximately two million gallons of wastewater into the river, which has been determined will not have an adverse impact on the river over the long run.

The facility is located 1-1/2 miles from a 115 kV electric transmission line which is proposed to be accessed across existing wetlands. A natural gas pipeline runs through the Apex site.

## Issues and Recommended Strategies for Case 2

- Qualifying Facility

The facility meets the standards for a QF. The utility company, State Utility, owns less than 50% of the equity interest in the facility, the annual power generated plus half of the useful thermal output is more than 42.5% of the natural gas input, and more than 15% of the energy output of the facility is useful thermal output. The developer must either file a self-certification notice with FERC or request certification of QF status by FERC.

- Power Sales

Since Apex signed a standard long-term power sales contract without modifications, the contract does not need to be reviewed further by the Massachusetts DPU. Sales of electricity will be sold to the local utility, Good Electric.

- Siting

The facility requires approval from the EFSC, not only because it is greater than 100 MW, but also because the proposed transmission line is over one mile in length and greater than 69 kV. The applicant will be required to demonstrate that the chosen site for the power plant is most optimal, relative to alternative sites, and that power will be produced at the least cost with minimal environmental impact. In addition, because of the length and voltage of the transmission line, the proponent will be required to demonstrate that the chosen route for the transmission line is optimal relative to the other transmission routes.

- MEPA Process

The proponents are required to file an ENF and an EIR as the project is categorically included by MEPA standards. The Draft EIR should respond to those issues identified in the Scope issued by MEPA in response to the ENF. MEPA will then require a Final EIR in response to submission of the Draft EIR.

- Air Quality

Because the facility will be considered a major new source of air contaminants, and because there are five additional major sources within 15 miles of the facility, all five sources will have to be modeled interactively with the ABC facility. PSD permitting will require BACT assessment, an Air Quality Impact Assessment and may require pre-construction monitoring.

- Water Supply and Wastewater Discharge

The two MGD originally drawn from the Greenfield River for use in the manufacturing operation will be reused by the new gas turbine facility for cooling purposes. The new facility will discharge most of the water into the atmosphere through its wet cooled system and thus there will be a net reduction of discharge into the Greenfield River. It has been determined by local biologists that this will not adversely impact the Greenfield River. A Surface Water Discharge/NPDES Permit will be required.

- Oil Storage Tank

The facility will need to obtain an oil storage tank permit from the DPS, Division of Inspection Engineering, along with approval from the local building inspector and fire inspector as the tank will hold more than 10,000 gallons of distillate oil for backup purposes.

- Electrical Transmission Interconnect

The proposed transmission interconnect will require transmission lines to span a wetlands resource area. This will require DEP and local Conservation Commission approval, as well as a COE 404 Permit and a Chapter 91 License. If possible, ABC Energy may want to evaluate other electrical interconnect routes that would avoid wetlands. Although alternatives may be costlier, ABC will have to determine whether the expense is warranted relative to potential delays that may occur in trying to obtain approvals for construction in this wetland resource area.

A Summary of the required permits for this facility is provided in Table 6-2.



TABLE 6-2

CASE 2: 240 MW NATURAL GAS-FIRED COMBINED CYCLE FACILITY  
SUMMARY OF NECESSARY CYCLE FACILITY

Agency	Permit	Issue	Triggering Criteria
FERC	QF Certification	Certification as a Qualifying Facility	<ul style="list-style-type: none"> <li>- Meets ownership criteria (&lt;50% utility owned)</li> <li>- Meets efficiency standard (useful power and thermal output exceed 42.5% energy input)</li> <li>- Meets operating standard (5% of total output is "useful" thermal)</li> </ul>
MDPU	Approval of Power Sales Contract	Sale of electricity to utility	<ul style="list-style-type: none"> <li>- Contract for sale of electricity</li> </ul>
EFSC	Approval to Construct	Siting	<ul style="list-style-type: none"> <li>- 100 MW or greater</li> <li>- Construction of transmission line greater than 1 mile in length</li> </ul>
MEPA	Certification	Environmental Impact Assessment	<ul style="list-style-type: none"> <li>- In excess of 100,000 gpd water withdrawal from a public water supply</li> <li>- Greater than 100 MW</li> <li>- Greater than 250 TPY emissions</li> </ul>
DEP Div. of Air Quality Control	PSD/Air Plans	Air Quality	<ul style="list-style-type: none"> <li>- New "major source" of air contaminants</li> </ul>
DEP Div. of Water Pollution Control	Sewer Extension/Connection Permit	Wastewater discharge	<ul style="list-style-type: none"> <li>- Extension or connection to public sewer system</li> </ul>
MWRA	Industrial User Discharge Permit	Wastewater discharge	<ul style="list-style-type: none"> <li>- Discharge of industrial waste to MWRA or tributary sewer system</li> </ul>
DEP Div. of Water Pollution Control	Water Quality Certification	Wastewater discharge	<ul style="list-style-type: none"> <li>- Dredging, filling or construction of intake or discharge structure in surface waters</li> </ul>
DEP Div. of Water Supply	Chapter 21 G Permit	Water supply	<ul style="list-style-type: none"> <li>- Withdrawal in excess of 100,000 gpd</li> </ul>
Dept. of Public Safety	Permit to Construct an Oil Storage Tank in Excess of 10,000 gallons	Storage tank for back-up distillate oil	<ul style="list-style-type: none"> <li>- Storage of distillate oil in excess of 10,000 gallons</li> </ul>
Dept. of Energy Office of Fuels Programs	Fuel Use Act Exemption	Request exemption from Fuel Use Act which prohibits use of oil or natural gas in new generating facility	<ul style="list-style-type: none"> <li>- Use of natural gas with oil backup</li> </ul>
Federal Aviation Administration	FAA Approval	Proximity to airport runway and stack height	<ul style="list-style-type: none"> <li>- Facility located within 20,000 feet of an airport runway</li> <li>- Proposed stack higher than 200 feet</li> </ul>
Local Conservation Commission	Order of Conditions	Construction of transmission lines over wetlands	<ul style="list-style-type: none"> <li>- Alteration of wetland resource area</li> </ul>

TABLE 6-2 (Continued)

Agency	Permit	Issue	Triggering Criteria
Local Planning Board	Site Plan Approval	Siting	- Proposed construction of electric generating facility
Local Zoning Board	Zoning Relief	Zoning	- Proposed construction of electric generating facility
Local Building Inspector	Building Permit Approval	Building inspection	- Proposed construction of electric generating facility
Local Fire Inspector	Permit to Construct Storage Tank for Inflammable Fluid	Back-up oil storage Ammonia Storage	- On-site storage of a flammable liquid

#### 6.4 Case 3: 40 MW Natural Gas-Fired Combined Cycle Facility

PDQ College in Rural, Massachusetts plans to construct and operate a 40 MW natural gas-fired topping cycle cogeneration facility at its old steam plant facility. PDQ anticipates retiring an antiquated diesel boiler resulting in an overall reduction of emissions on the campus and surrounding area. The new facility will provide 30,000 pounds of steam per hour, and is projected to produce 318,000 MWh of electricity. The facility is projected to consume approximately 8.8 MCF/day of natural gas.

A natural gas pipeline already exists on the campus and electric transmission interconnects are close by, approximately 1/4 mile from the proposed site.

The facility will require approximately 500,000 gpd of water from the public water supply for the facility's wet cooling towers. Process wastewater will be discharged to the municipal treatment facility which, according to local authorities, will be able to handle the additional discharge.

Noise will be minimized by state-of-the-art noise mitigation measures on the facility. On campus residences are within 1,000 feet of the proposed facility.

The facility will be equipped with Selective Catalytic Reduction (SCR), for reduction of Nitrogen Oxides ( $\text{NO}_x$ ) which requires the use of ammonia as a reagent.

The terrain around the facility is flat and the area is rural. The closest airport is 20 miles away. Stack height of the facility will be 100 feet.

The facility will have a backup distillate oil tank in the event of a natural gas pipeline disruption.

PDQ plans to enter into a short-run standard contract for purchases of excess electricity.

#### Issues and Recommended Strategies for Case 3

- QF Certification

The facility meets the standards for QF status. No utility holds an equity interest in the facility. The sum of the annual electrical output and one-half of the annual useful thermal output is greater than 42.5% of the natural gas input, and more than 15% of the total output of the facility is useful thermal. PDQ must either file a self-certification notice with FERC or request certification of QF status by FERC.



- Power Sales

PDQ plans to enter into a standard short-run as-available contract with the local utility. This contract allows the utility to purchase PDQ's excess electricity at a rate previously filed with the DPU. Once the contract receives DPU approval, the contract needs no further DPU review. The utility will meter power sales from PDQ.

- Siting

The location for the proposed facility does not require approval from the EFSC as it is less than 100 MW in size, requires only a one-quarter mile transmission interconnect and there is an existing natural gas pipeline.

- MEPA Process/EIR Waiver

The developers of this project may wish to apply for an EIR waiver. The facility is considered "categorically included" by MEPA standards in that it requires greater than 100,000 gpd of water from a public water supply. Since there are few environmental impacts outside of the water issue, an expanded ENF, addressing the water supply issue, may be sufficient to waive the EIR, although granting of a waiver will require a clear showing of insignificant impacts.

- Handling of Ammonia

Since the proponent is using SCR with ammonia injection to reduce their NO<sub>x</sub> emissions to 9 ppm, there may be issues associated with the safe handling of ammonia required for SCR for NO<sub>x</sub> control. A risk assessment and approval from the local Fire Inspector will be necessary if an ammonia storage tank is constructed.

- Air Quality

The facility would be considered a non-major DEP source (Category 3), requiring an Air Plans filing. Minimum screening modeling will be required to support the Air Plans filing.

- Water Supply

Because PDQ is purchasing water from a public water supply, PDQ does not have to obtain a Chapter 21G certification for water withdrawal.

- Wastewater

A Sewer Connection Permit will be required from DWPC. Local approval of sewer connections will be required as well.

An NPDES permit application may be required for stormwater runoff. The project will not, however, require construction of discharge structures and will not require a COE Permit.

- Oil Storage Tank

Local and state oil storage permits will be required for the backup oil storage tank.

A summary of the necessary permits for this facility are listed in Table 6-3.

TABLE 6-3

**CASE 3: 40 MW NATURAL GAS-FIRED COMBINED CYCLE FACILITY**  
**SUMMARY OF NECESSARY PERMITS AND APPROVALS**

Agency	Permit	Issue	Triggering Criteria
FERC	QF Certification	Certification as a Qualifying Facility	<ul style="list-style-type: none"> <li>- Meets ownership criteria (&lt;50% utility owned)</li> <li>- Meets efficiency standard (useful power and thermal output exceed 42.5% of energy input)</li> <li>- Meets operating standard (5% of total output is "useful" thermal)</li> </ul>
MDPU	Pre-Approved Power Sales Contract	Sale of electricity to utility	<ul style="list-style-type: none"> <li>- Contract for sale of electricity</li> </ul>
MEPA	Certification	Expanded Environmental Notification Form for potential waiver of EIR	<ul style="list-style-type: none"> <li>- Excess of 100,000gpd water withdrawal from public water supply</li> </ul>
DEP Div. of Air Quality Control	Air Plans	Air Quality	<ul style="list-style-type: none"> <li>- "Non-major source" of air contaminants</li> </ul>
DEP Div. of Water Pollution Control	Sewer Extension/Connection Permit	Wastewater discharge	<ul style="list-style-type: none"> <li>- Extension or connection to public sewer system</li> </ul>
	Water Quality Certification	Wastewater discharge	<ul style="list-style-type: none"> <li>- Discharge into State waters</li> </ul>
Local Sewer Authority	Sewer Extension/Connection Permit	Wastewater discharge	<ul style="list-style-type: none"> <li>- Extension or connection to public sewer system</li> </ul>
DEP Div. of Water Pollution Control/EPA Region I	NPDES Permit	Stormwater runoff	<ul style="list-style-type: none"> <li>- Potential to affect surface or groundwater quality</li> </ul>
Local Water Authority	Approval	Wastewater discharge	<ul style="list-style-type: none"> <li>- Extension or connection to public sewer system</li> </ul>
Dept. of Energy Office of Fuels Programs	Fuel Use Act Exemption	Request exemption from Fuel Use Act which prohibits use of oil or natural gas in new generating facility	<ul style="list-style-type: none"> <li>- Use of natural gas with oil backup</li> </ul>
Dept. of Public Safety	Permit to Construct an Oil Storage Tank in Excess of 10,000 gallons	Oil storage tank	<ul style="list-style-type: none"> <li>- Storage of distillate oil in excess of 10,000 gallons</li> </ul>
Local Planning Board	Site Plan Approval	Siting	<ul style="list-style-type: none"> <li>- Proposed construction of electric generating facility</li> </ul>
Local Zoning Board	Zoning Relief	Zoning	<ul style="list-style-type: none"> <li>- Proposed construction of electric generating facility</li> </ul>
Local Building Inspector	Building Permit	Building inspection	<ul style="list-style-type: none"> <li>- Proposed construction of electric generating facility</li> </ul>
Local Fire Inspector	Permit to Construct a Storage Tank for Inflammable Fluid	Back-up oil storage Ammonia storage	<ul style="list-style-type: none"> <li>- On-site storage of a flammable liquid</li> </ul>







## APPENDIX A

### GLOSSARY OF ABBREVIATIONS, ACRONYMS AND TERMS





APPENDIX A  
ABBREVIATIONS, ACRONYMS AND TERMS

Agencies and Organizations

CEQ	Council on Environmental Quality (U.S.)
COE	Corps of Engineers (U.S. Army)
CZM	Coastal Zone Management
DCS	Division of Conservation Services
DEM	Department of Environmental Management
DEP	Department of Environmental Protection
DFA	Department of Food and Agriculture
DFWELE	Department of Fisheries, Wildlife and Environmental Law Enforcement
DOE	Department of Energy (U.S.)
DPS	Department of Public Safety
DPU	Department of Public Utilities
DPW	Department of Public Works
EFSC	Energy Facilities Siting Council
EOCD	Executive Office of Communities and Development
EOEA	Executive Office of Environmental Affairs
EOER	Executive Office of Energy Resources
EOPS	Executive Office of Public Safety
EOTC	Executive Office of Transportation and Construction
EPA	Environmental Protection Agency (U.S.)
EPRI	Electric Power Research Institute
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
HWFSSC	Hazardous Waste Facility Site Safety Council
MDC	Metropolitan District Commission
MEPA	Massachusetts Environmental Policy Act Unit
MHC	Massachusetts Historical Commission
MNHP	Massachusetts Natural Heritage Program
MWRA	Massachusetts Water Resource Authority
NEPOOL	New England Power Pool
NESCAUM	Northeast States for Coordinated Air Use Management
ORS	Office of Research and Standards (DEP)
SEC	Securities and Exchange Commission (U.S.)
WRC	Water Resources Commission

Terms

AAL	Allowable Ambient Limits
BACT	Best Available Control Technology
DEIR	Draft Environmental Impact Report
EA	Environmental Assessment
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ENF	Environmental Notification Form

ABBREVIATIONS, ACRONYMS AND TERMS  
(Continued)

Terms (Continued)

FEIR	Final Environmental Impact Report
FONSI	Finding of No Significant Impact
HRSG	Heat Recovery Steam Generator
IPP	Independent Power Producer
kW	Kilowatt
kWh	Kilowatt Hour
LAER	Lowest Achievable Emissions Rate
MW	Megawatt
MWh	Megawatt Hour
NAAQS	National Ambient Air Quality Standards
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
PSD	Prevention of Significant Deterioration
QF	Qualifying Facility
SFEIR	Supplemental Final Environmental Impact Report
SPP	Small Power Producer
VOC	Volatile Organic Compounds

Btu	British Thermal Unit
dB	Decibel
dBA	Decibel - A Weighted
gpm	Gallons Per Minute
gpd	Gallons Per Day
lb/hr	Pounds Per Hour
tpy	Tons Per Year
ug/m <sup>3</sup>	Microgram Per Cubic Meter
H <sub>2</sub> S	Hydrogen Sulfide
NO <sub>x</sub>	Nitrogen Oxides
SO <sub>2</sub>	Sulfur Dioxide

Source: Massachusetts Executive Office of Energy Resources, Guidebook on Regulatory Procedures for Development of Cogeneration and Independent Power Production in Massachusetts, August, 1989.







APPENDIX B

DIRECTORY OF AGENCY, NON-AGENCY  
AND MASSACHUSETTS UTILITY CONTACTS





APPENDIX B  
AGENCY CONTACT LIST

State Agencies

Massachusetts Aeronautics Commission  
10 Park Plaza - Room 6620  
Boston, MA 02116-3966  
(617) 973-7350  
Contact: Arnold R. Stymest, Executive Director

Massachusetts Bay Transit Authority  
10 Park Plaza - 5th Floor  
Boston, MA 02116-3966  
(617) 722-5000  
Contact: Thomas P. Glynn, General Manager

Massachusetts Department of Environmental Management  
100 Cambridge Street  
Boston, MA 02202  
(617) 727-3159  
Contact: Richard E. Kendall, Commissioner

Massachusetts Department of Environmental Protection

Boston: DEP  
One Winter Street  
Boston, MA 02108  
(617) 292-5500  
Contact: Kenneth Hagg, Deputy Commissioner  
Bruce Maillet, Director of Air Quality

Western Region 1: DEP  
Western Region I  
436 Dwight Street  
P. O. Box 2410  
Springfield, MA 01101-2410  
(413) 784-1100  
Contact: John Higgins, Director

Central Region 2: DEP  
Central Region 2  
75 Grove Street  
Worcester, MA 01605  
(508) 792-7650  
Contact: Jim Fuller, Acting Director

Northeast Region 3: DEP  
 Metropolitan Boston/Northeast Region 3  
 5 Commonwealth Avenue  
 Woburn, MA 01801  
 (617) 935-2160  
 (617) 727-5194  
 Contact: Edward Kunce, Director;  
 Mark Altobelli, Environmental Engineer

Southeast Region 4: DEP  
 Southeast Region 4  
 Lakeville Hospital  
 Main Street  
 Lakeville, MA 02346  
 (508) 946-2770  
 Contact: Gilbert Joly, Director  
 John Winkler, Environmental Engineer

DEP Divisions (Boston)

Contact:

Division of Air Quality Control	(617) 292-5630	Bruce Maillet; Don Squires
Division of Water Supply	(617) 292-5653	Andrew Gottlieb
Division of Water Pollution Control	(617) 292-5658	Bill Gaughan
Division of Solid Waste	(617) 292-5640	Steve Robertson
Division of Hazardous Waste Management	(617) 292-5832	Steve Dreezen
Division of Wetlands and Waterways Regulation	(617) 292-5516	Christy Foote-Smith

Massachusetts Department of Fisheries, Wildlife and  
 Environmental Law Enforcement  
 100 Cambridge Street  
 19th Floor  
 Boston, MA 02202  
 (617) 727-1614  
 Contact: Walter Bickford, Commissioner

Massachusetts Department of Food and Agriculture  
 100 Cambridge Street  
 21st Floor  
 Boston, MA 02202  
 (617) 727-3018  
 Contact: August Schumacher, Jr., Commissioner

Massachusetts Department of Public Safety  
 Division of Inspection Engineering  
 1 Ashburton Place - Room 1301  
 Boston, MA 02108  
 (617) 727-3200  
 Contact: Fred Barton  
 (Oil Storage Tanks - Greater Than 10,000 Gallons Above-Ground)



Massachusetts Department of Public Safety  
Fire Marshall's Office  
1010 Commonwealth Avenue  
Boston, MA 02215  
(617) 566-4500, x315  
Contact: Mr. Joseph O'Keefe, Fire Marshall  
(Oil Storage Tanks - Below-Ground or Less Than 10,000 Gallons)

Massachusetts Department of Public Utilities  
100 Cambridge Street - 12th Floor  
Boston, MA 02202  
(617) 727-3500 - General Information  
(617) 727-9748 - Electric Power Division  
Contact: Henry Yoshimura, Assistant Director, Electric Power Division

Massachusetts Department of Public Works  
10 Park Plaza  
Room 4260 - Planning  
Boston, MA 02116  
(617) 973-7500 - Public Information  
Contact: Michael L. Burke, Director of Bureau of Transportation, Planning and Development

District Offices

District	1	Lenox
District	2	Northampton
District	3	Worcester
District	4	Arlington
District	5	Danvers
District	6	Taunton
District	7	Middleborough
District	8	South Boston

Massachusetts Energy Facilities Siting Council  
100 Cambridge Street - 21st Floor  
Boston, MA 02202  
(617) 727-1136  
Contact: Rob Shapiro, Executive Director  
Steve Klionsky, General Counsel

Massachusetts Executive Office of Communities and Development  
State Clearinghouse  
100 Cambridge Street - 9th Floor  
Boston, MA 02202  
(617) 727-7001  
Contact: Dick Howe, Assistant Secretary

Massachusetts Executive Office of Energy Resources  
100 Cambridge Street - Room 1500  
Boston, MA 02202  
(617) 727-4732  
Contact: Tracy Narel, Senior Policy Analyst

Massachusetts Executive Office of Environmental Affairs  
Coastal Zone Management  
100 Cambridge Street - 20th Floor  
Boston, MA 02202  
(617) 727-9530  
Contact: Jeff Benoit, Director

Massachusetts Executive Office of Environmental Affairs  
Division of Marine Fisheries  
100 Cambridge Street - 19th Floor  
Boston, MA 02202  
(617) 727-9800  
Contact: Phillip G. Coates, Director

Massachusetts Executive Office of Environmental Affairs  
MEPA Unit - 20th Floor  
100 Cambridge Street  
Boston, MA 02202  
(617) 727-5830  
Contact: Janet McCabe, Director

Massachusetts Executive Office of Transportation and Construction  
10 Park Plaza - Room 3510  
Boston, MA 02116-3969  
(617) 973-7000  
Contact: Cheryl Soon, Deputy Secretary for Land Use and Development

Massachusetts Historical Commission  
80 Boylston Street  
Boston, MA 02116  
(617) 727-8470  
Contact: Valerie A. Talmage, Executive Director

Massachusetts Natural Heritage Program  
Division of Fisheries and Wildlife  
100 Cambridge Street  
Boston, MA 02202  
(617) 727-9194  
Contact: Henry Woolsey, Coordinator

Massachusetts Water Resource Authority  
Sewerage Division  
100 First Avenue  
Charlestown Navy Yard  
Boston, MA 02129  
(617) 242-7110  
Contact: Richard Davison, Administrator

## Federal Agencies

Federal Aviation Administration/Air Traffic Division  
U.S. Department of Transportation  
New England Regional Office  
12 New England Executive Park  
Burlington, MA 01803  
(617) 273-7152  
Contact: Maurice Georgian, Airspace Technical Specialist

Federal Energy Regulatory Commission  
Office of the Secretary  
825 North Capitol Street NE  
Washington, DC 20426  
Fax # (202) 357-8147  
Contact: Bob Cackowski  
Director, Division of Interconnection and Systems Analysis  
(202) 376-9264  
John Emami  
Chief, Interconnection and Special Investigations Branch  
(202) 376-9381

Federal Emergency Management Agency  
Region I  
J.W. McCormack Post Office Building  
Room 442  
Boston, MA 02109  
(617) 223-9540  
Contact: Henry G. Vickers, Regional Director

U.S. Army Corps of Engineers  
Construction Division  
Region I  
424 Trapelo Road  
Waltham, MA 02254-9149  
(617) 647-8260  
Contact: Karen Adams, Unit Chief

U.S. Department of Energy  
10 Causeway Street  
O'Neil Federal Building - Room 1197  
Boston, MA 02222-1035  
(617) 565-7705  
Contact: Duane Day, Public Affairs Officer

U.S. Department of Energy  
Office of Coals and Electricity  
Office of Fuels Programs  
3H087 FE-52  
1000 Independence Avenue SW  
Washington, DC 20585  
(202) 586-5935  
Contact: Anthony Como, Director  
(Fuel Use Act Exemption)



U.S. Department of the Interior  
Fish and Wildlife Service  
Ecological Service Field Office  
400 Ralph Hill Marketplace  
22 Bridge Street  
Concord, NH 03301-4901  
(603) 225-1411  
Contact: Bob Scheirer, Biologist

U.S. Department of the Interior  
Regional Headquarters  
One Gateway Center  
Suite 700  
Newton Corner, MA 02158  
(617) 965-5100  
Contact: Ronald E. Lambertson, Regional Director

U.S. Department of the Interior  
Geological Survey  
New England District Headquarters  
Water Resources Division  
10 Causeway Street  
Suite 926  
Boston, MA 02222-1040  
(617) 565-6860  
Contact: Ivan James, II, District Chief

U.S. Environmental Protection Agency  
Region I  
JFK Federal Building  
Boston, MA 02203  
(617) 565-4420  
Contact: Gwen Ruta, Chief, Environmental Evaluation Section

U.S. Environmental Protection Agency  
401 M Street SW  
W901  
Washington, DC 20460  
(202) 382-2807  
Contact: John S. Seitz, Director, Stationary Source Compliance Division

## NON-AGENCY CONTACTS

Northeast States for Coordinated Air Use Management (NESCAUM)  
85 Merrimac Street  
Boston, MA 02114  
(617) 367-8540  
Contact: Michael J. Bradley, Executive Director

New England Cogeneration Association (NECA)  
P.O. Box 1270  
Waltham, MA 02254  
(617) 622-1223  
Contact: Sherif S. Fam, President

New England Power Pool (NEPOOL)  
New England Power Planning (NEPLAN)  
174 Brush Hill Avenue  
P.O. Box 2010  
West Springfield, MA 01090  
Contact: William Shepardson, Manager of Public Information  
(413) 787-9049

Electric Power Research Institute  
Technical Information Center  
P.O. Box 10412  
Palo Alto, CA 94303  
(415) 855-2411  
Contact: Christa Frisch  
Technical Information Services Coordinator  
(415) 855-2281

New England Governors' Conference  
76 Summer Street  
Boston, MA 02110  
(617) 423-6900  
Contact: Steven Leahy, Director, Energy Program

MASSACHUSETTS ELECTRIC UTILITIES WITH WHOM  
SMALL POWER PRODUCERS  
HAVE CONTRACTED PURCHASE POWER AGREEMENTS

Boston Edison  
800 Boylston Street  
Boston, MA 02199  
Contact: Paul Vaitkus  
Division Head, Supply Planning  
(617) 424-3188

Commonwealth Energy Systems  
Commonwealth Electric Company  
P.O. Box 9150  
Cambridge, MA 02142-9150  
Contact: Marcy S. Rosenzweig  
Manager, Rate Regulation  
(617) 225-4000

Commonwealth Electric Company  
2421 Cranberry Highway  
Wareham, MA 02571  
Contact: Michael Kirkwood  
Power Supply Specialist  
(508) 291-0950 ext. 3231

Eastern Utilities Associates  
EUA Service Corporation  
750 West Center Street  
P.O.Box 543  
West Bridgewater, MA 02379  
Contact: Lawrence R. Boisvert  
Planning Engineer, Resource Planning  
(508) 559-1000

Fitchburg Gas and Electric Light Company  
c/o UNITIL Service Corporation  
216 Epping Road  
Exeter, NH 03833  
Contact: David Foote  
(603) 772-0775

Massachusetts Electric Company  
New England Power Service Company  
25 Research Drive  
Westborough, MA 01532  
Contact: Mary Smith  
(508) 366-9011, ext. 2715

Massachusetts Municipal Wholesale Electric Company  
Stony Brook Energy Center  
P.O. Box 426  
Ludlow, MA 01056  
Contact: David LaPlante  
(413) 589-0141

Nantucket Electric Company  
Nantucket, MA 02554  
Contact: Robert Hawkins  
(508) 228-1870

Western Massachusetts Electric Company  
Northeast Utilities Service Company  
107 Selden Street  
Berlin, CT 06037  
Contact: Brian E. Curry  
(203) 665-5000

Source: Massachusetts Executive Office of Energy Resources, Guidebook on Regulatory Procedures for Development of Cogeneration and Independent Power Production in Massachusetts, August, 1989.









**APPENDIX C**

**SUGGESTED REFERENCE MATERIALS  
AND WHERE TO OBTAIN THEM**





APPENDIX C  
SUGGESTED REFERENCE MATERIALS

<u>Topic</u>		<u>Available From</u>
Air Quality	NESCAUM Policy BACT Guidelines NESCAUM Recommendation on Emission Limits for Gas Turbines	Northeast States for Coordinates Air Use Management
	Air Quality Modeling Protocol	DEP Division of Air Quality Control
Water Quality	Division of Water Supply Water Management Guidelines and Policies	DEP Division of Water Supply
Wetlands Construction	Massachusetts Wetlands and Waterways - A General Guide to the Massachusetts Regulatory Program	DEP Division of Wetlands and Waterways Regulation
	"Are You Planning Work in a Waterway or Wetland?"	Army Corps of Engineers New England Division
Wetlands - ACECs	Areas of Critical Environmental Concern (ACECs)	Massachusetts Office of Coastal Zone Management
Cogeneration	Cogeneration, Small Power and Independent Power Facilities in New England	New England Governors' Conference
Power Sales Agreements	Small Power Producer Contract List	Massachusetts Department of Public Utilities
	Massachusetts Electric Negotiations/Bidding Experiment Report 1988, 1989	Massachusetts Electric Company (MECO)
	IPP Notice of Proposed Rulemaking (NOPR)	Federal Energy Regulatory Commission
	Proceedings Before the Massachusetts DPU Opening Up The Bidding Process to IPPs	MDPU 86-36 A-F

SUGGESTED REFERENCE MATERIALS  
(Continued)

Supply and Demand Forecasts: Massachusetts	Massachusetts State Annual Forecast of Energy Resources  Individual Utility Demand Forecasts and Supply Plans	Executive Office of Energy Resources (EOER)  Energy Facilities Siting Council (EFSC)
Supply and Demand Forecasts: New England	NEPOOL Forecast Report of Capacity Energy Load and Transmission (CELT) (also accompanying reports)	New England Power Pool (NEPOOL)

Source: Massachusetts Executive Office of Energy Resources, Guidebook on Regulatory Procedures for Development of Cogeneration and Independent Power Production in Massachusetts, August, 1989.

## PUBLICATION SOURCES

State and Federal Publications and Regulations may be obtained from the following:

EPA Library  
15th Floor  
JFK Federal Building  
Boston, MA 02203  
(617) 565-3300

State House Bookstore  
State House  
Room 116  
Boston, MA 02133  
(617) 727-2834

U.S. Government Printing Office  
10 Causeway Street  
Boston, MA 02222  
(617) 565-2488

Massachusetts Land Law  
P. O. Box 9038  
Waltham, MA 02254  
(617) 891-9512  
(800) 637-6330  
(Publication of all local ordinances)

Source: Massachusetts Executive Office of Energy Resources, Guidebook on Regulatory Procedures for Development of Cogeneration and Independent Power Production in Massachusetts, August, 1989.









APPENDIX D

CHECKLIST OF POTENTIAL PERMITS AND APPROVALS





APPENDIX D  
CHECKLIST OF POTENTIAL PERMITS AND APPROVALS

Federal

- Federal Energy Regulatory Commission, Qualifying Facility (QF) Certification \_\_\_\_\_
- Federal Energy Regulatory Commission, Power Contract Approval \_\_\_\_\_
- Department of Energy Office of Fuels Programs Fuel Use Act Exemption \_\_\_\_\_
- Federal Aviation Administration Notification of Proposed Construction \_\_\_\_\_
- U.S. EPA NPDES Permit \_\_\_\_\_
- U.S. Army Corps of Engineers Section 10 Permit \_\_\_\_\_
- U.S. Army Corps of Engineers Section 404 Permit \_\_\_\_\_
- National Environmental Policy Act Certification (NEPA) \_\_\_\_\_

State

- EOEA, MEPA Unit Certification \_\_\_\_\_
- Energy Facilities Siting Council Approval to Construct \_\_\_\_\_
- Department of Environmental Protection (DEP) PSD/Air Plans Review \_\_\_\_\_
- DEP Water Withdrawal Permit \_\_\_\_\_
- DEP Cross Connection Permit \_\_\_\_\_
- DEP Surface Water Discharge Permit (with NPDES) \_\_\_\_\_
- DEP Groundwater Discharge Permit \_\_\_\_\_
- DEP Water Quality Certification \_\_\_\_\_
- Sewer Extension/Connection Permit \_\_\_\_\_
- MWRA Industrial User Discharge Permit \_\_\_\_\_
- Wetlands Approval of Local Order of Conditions \_\_\_\_\_
- Chapter 91 License \_\_\_\_\_
- CZM Certificate of Consistency \_\_\_\_\_
- Department of Public Safety Oil Storage Tank Construction Permit \_\_\_\_\_
- Department of Public Safety Ammonia Storage Tank \_\_\_\_\_
- Executive Office of Transportation and Construction Approval \_\_\_\_\_
- Massachusetts Historical Commission Approval \_\_\_\_\_
- Massachusetts Natural Heritage Program Approval \_\_\_\_\_
- Solid Waste Facility Site Assignment \_\_\_\_\_
- Solid Waste Facility Operating Permit \_\_\_\_\_
- Massachusetts DPU Gas Pipeline Approval \_\_\_\_\_

## CHECKLIST OF POTENTIAL PERMITS AND APPROVALS

(Continued)

### Local

- Local Planning Board Approval \_\_\_\_\_
- Local Zoning Board of Appeals Approval \_\_\_\_\_
- Local Fire Department Approval \_\_\_\_\_
- Local Building Inspector Approval \_\_\_\_\_
- Local Water Department/Sewer Commission Approval \_\_\_\_\_
- Local Conservation Commission(s) Order of Conditions \_\_\_\_\_
- Local Historical Society Approval \_\_\_\_\_
- Local Board of Health Approval \_\_\_\_\_
- Local Department of Public Works Approval \_\_\_\_\_
- Local Residents and Abutters Notification \_\_\_\_\_

Source: Massachusetts Executive Office of Energy Resources, Guidebook on Regulatory Procedures for Development of Cogeneration and Independent Power Production in Massachusetts, August, 1989.







## APPENDIX E

### LAWS AND REGULATIONS GOVERNING THE PERMITTING PROCESS



APPENDIX E  
COGENERATION AND INDEPENDENT POWER PRODUCTION  
LAWS AND REGULATIONS GOVERNING THE PERMITTING PROCESS

<u>Agency</u>	<u>Permit/Approval</u>	<u>Issue</u>	<u>Statute</u>	<u>Regulations</u>
<u>FEDERAL</u>				
Federal Energy Regulatory Commission	QF Certification	Certification as a Qualifying Facility	FPA s. 205: 16 U.S.C. s.791 <i>et seq.</i>	18 CFR Part 1 et seq.
	Approval of Power Sales Contracts (IPPs)	Sale of Electricity to Purchasing Utility	PURPA s. 210 16 U.S.C. ss.796,828a <i>et seq.</i>	18 CFR Part 292
Dept of Energy Economic Regulatory Admin.	Fuel Use Act Exemption	Exemption from Fuel Use Act which prohibits use of oil or natural gas in new facilities	42 U.S.C. s.8301 <i>et seq.</i>	10 CFR Part 501
Federal Aviation Administration	Notification of Proposed Construction	Stack Construction	49 U.S.C. s.1501	14 CFR Part 77
Environmental Protection Agency Region I (jointly with DEP)	Surface Water Discharge/ NPDES	Wastewater Discharge Stormwater Discharge	Clean Water Act ss. 301,304,403,318, 402,405	40 CFR Part 122
Army COE	COE Section 404 Permit	Dredge and fill material	Clean Water Act s.404	33 CFR Part 323
	COE Section 10 Permit	Construction in Navigable Waters	33 U.S.C. ss.1344	
US Council of Environmental Quality (NEPA)	Environmental Assessment	Major Actions	42 U.S.C. 4321 <i>et seq.</i>	40 CFR Part 1500 <i>et seq.</i>
	Finding of No Significant Impact			



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<u>Agency</u>	<u>Permit/Approval</u>	<u>Issue</u>	<u>Statute</u>	<u>Regulations</u>
Federal Emergency Management Act	Advisory-No permit issued	Flood Control	42 U.S.C. s.5201	44 CFR Part 9
Securities and Exchange Commission	Compliance-No permit issued	Compliance with PUHCA (if not an exempted QF)	PUHCA 15 U.S.C. s.79 <i>et seq.</i>	17 CFR s. 250.1 <i>et seq.</i>

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<u>Agency</u>	<u>Permit/Approval</u>	<u>Issue</u>	<u>Statute</u>	<u>Regulations</u>
<u>STATE</u>				
Mass. Dept of Public Utilities (MDPU)	Approval of Power Sales Contract	Sale of electricity from QF to utility	16 U.S.C. ss.796, 824a-3	MDPU 84-276B 220 CMR 8.00 18 CFR Part 292
	Notice of Intent to Interconnect to a Utility	Interconnections	16 U.S.C. ss. 796, 824a-3	220 CMR 8.03 18 CFR Part 292
	Qualification to Operate a Natural Gas Pipeline	Gas Pipeline Approval	MGL c.164 s. 75B	CMR-None
	Approval	Safety Regulations	MGL c.164 ss. 75E,105A	220 CMR 100 <i>et seq.</i>
Energy Facilities Siting Council (EFSC)	Approval to Construct	Siting	MGL c.164	980 CMR 1.00-11.00
Exec. Office of Environmental Affairs, MEPA Unit	Certification	Environmental Impact Assessment	MGL c.30 ss. 61,62-62H	301 CMR 10.00 <i>et seq.</i>
Dept of Environmental Protection (DEP) Div of Air Quality Control	Approval to Construct a New Source of Air Contaminants	Air Quality	MGL 111 s. 142A-142E	310 CMR 7.00
	PSD Review	Air Quality	US Clean Air Act 42 U.S.C. 7401 <i>et seq.</i>	40 CFR 124
DEP Div of Water Pollution Control	Sewer Extension/Connection Permit	Wastewater discharge	MGL c.21 s. 43	314 CMR 7.00 360 CMR 10.00
Mass. Water Resources Authority (MWRA)	Industrial User Discharge Permit	Wastewater discharge	MGL c.92 App. 1-1 <i>et seq.</i>	360 CMR 10.00

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LAWS AND REGULATIONS GOVERNING THE PERMITTING PROCESS

<u>Agency</u>	<u>Permit/Approval</u>	<u>Issue</u>	<u>Statute</u>	<u>Regulations</u>
DEP Div of Water Pollution Control/ (joint with EPA Region I (NPDES))	Surface Water Discharge Permit	Wastewater discharge	MGL c.21 s. 43 33 U.S.C. s. 1342 FWPC Act s. 402	314 CMR 4.00 40 CFR Part 400 <i>et seq.</i>
DEP Div of Water Pollution Control	Ground Water Discharge Permit	Discharge to Ground	MGL c.21 s. 43	314 CMR 5.00
DEP Div. of Water Pollution Control	Water Quality Certification	Water intake/discharge	MGL c.21 s. 27	314 CMR 9.00
DEP Div. of Water Supply	Water Withdrawal Permit	Water withdrawal	MGL c.21 G	310 CMR 36.00
	Cross Connection Permit	Cross Connections	MGL 1111 s. 160A	310 CMR 22.22
DEP Division of Wetlands and Waterways	Approval of Local Conservation Commission Order of Conditions	Wetlands Protection	MGL c.131 s. 40 MGL c.21A MGL c.91	310 CMR 10.00
	Chapter 91 Waterways Licensing	Waterways/Tidelands	MGL c.91 s. 12-23	310 CMR 9.00
Mass. Office of Coastal Zone Management	Consistency Concurrence	Location of an Energy Facility in a Coastal Zone	MGL c.21A ss. 1 – 15	301 CMR 20-21 <i>et seq.</i>

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LAWS AND REGULATIONS GOVERNING THE PERMITTING PROCESS

<u>Agency</u>	<u>Permit/Approval</u>	<u>Issue</u>	<u>Statute</u>	<u>Regulations</u>
DEP Div. of Solid Waste	Approval	Disposal of Ash (Solid Waste)	MGL c.111 s. 150A	310 CMR 19.00
	Site Assignment	Site Assignment for Refuse Incinerator	MGL c.111 s.150A	310 CMR 16.00
DEP Div. of Hazardous Waste	Approval	Disposal of contaminated substances	MGL c.210	310 CMR 2.00
Mass Dept. of Public Safety	Approval of Fuel Oil Storage Tank and Tank Installations	Oil Storage Tank Insallation	MGL c.148 s. 510	527 CMR 4.00
Mass Dept. of Public Safety	Permit to Construct More than 10,000 gal Capacity for Storage of Fluids	Oil Storage Tank Installation (> 10,000 gals.)	MGL c.148 s. 37 <i>et seq.</i>	527 CMR 9.00 520 CMR 12.00
Mass Dept. of Public Safety, Div. of Inspection Engineering	Inspection of Above Ground Tanks	Oil Storage Tank Installation (> 10,000 gals.)	MGL c.146 s. 22	527 CMR 9.10
Exec Office of Transporation and Construction	Approval	Transportation; Construction on/near a railroad site	MGL c.161 MGL c.40 s. 54A	CMR - None
Mass. Dept. of Public Works	Permit for Approaches to New Streets	Curb Cuts	MGL c.81 s. 21	CMR - None
Mass. Historical Commission	Certification	Verification of areas of historical or archaeological significance	MGL c.40	950 CMR 70 <i>et seq.</i>
Mass. Natural Heritage Programs	Approval	Verification of rare or endangered animal or vegetation	MGL c.131 s. 40	310 CMR 10.00



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LAWS AND REGULATIONS GOVERNING THE PERMITTING PROCESS

<u>Agency</u>	<u>Permit/Approval</u>	<u>Issue</u>	<u>Statute</u>	<u>Regulations</u>
<u>LOCAL</u>				
Conservation Commission	Order of Conditions	Wetlands Protection	MGL c.131 s. 40	310 CMR 10.00
Local Planning Board	Site Plan Approval	Siting	MGL c.40A	Subject to Local Ordinance
Local Zoning Board	Zoning Relief	Zoning	MGL c.40A	Subject to Local Ordinance
Local Building Inspector	Building Permit	Building Inspection	MGL c.143 s. 3	780 CMR 113,126
Local Fire Inspector	Permit to Construct Storage Tank for Inflammable Fluid	Oil Storage Tank Ammonia Storage Tank	MGL c.148 s. 37	527 CMR 9.02
Local Board of Health	Refuse Facility Site Assignment	Refuse Facility Site Assignment	MGL c.111 s.150A	310 CMR 19.00
Local Historical Commission	Certification	Verification of areas of historical or archaeological	MGL c.40	950 CMR 70 <i>et seq.</i>
Local Water Board	Approval Approval	Water Withdrawal Sewer Interconnections	MGL c.21 G MGL c.21 s. 43	310 CMR 36.00 314 CMR 7.00

Source: Massachusetts Executive Office of Energy Resources, Permitting Guidebook for Developing Cogeneration and Independent Power Production In Massachusetts, August, 1989.



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